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SKETCH

OF THE

BOTANY

OF

SOUTH-CAROLINA AND GEORGIA.

IN TWO VOLUMES.

BY STEPHEN ELLIOTT, LL.D.

VOLUME II.

CHARLESTON:
PUBLISHED BY J. R. SCHENCK.
1824.

PREFACE.

AFTER many interruptions this Sketch of the phænogamous plants of South-Carolina and Georgia has at length been terminated. It was commenced when a work of this description was much wanted; it has been continued after that want has been in a great measure supplied, from a sense of obligation to those who had encouraged its publication.

That this work should be imperfect was unavoidable. The author has never had leisure or opportunity to visit every portion of the district whose plants it includes; he has had no access to Botanic Gardens where he might observe and examine those plants which had escaped his own researches; he has been able to consult but a very small number of the costly works, or even of the journals in which in Europe descriptions of the plants of North America are occasionally published, and he has had no opportunity of inspecting any herbarium but the one which through the kindness of his friends and his own exertions he has himself formed. Under such circumstances it will not be surprising if he shall

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be found to have published under new names some species already known in Europe, some which may have been imperfectly or incorrectly described by preceding authors, or some which he himself may have mistaken. While therefore he hopes that the errors from these sources will not be numerous, he could yet only offer it as "a sketch" in which he has included all such plants within the limits of South-Carolina and Georgia as he has had an opportunity of examining, and such as had been ascribed to the same districts by Botanists on whose authority he thought himself compelled to rely.

He trusts, however, that this Sketch will be found to have somewhat extended the knowledge of the Botany of the Southern States; that it contains descriptions of many plants not heretofore known; that it has rectified some errors; that it has elucidated some of the doubtful plants in the works of our older writers, and that it contains a careful, and he hopes a faithful description of such plants as he himself has seen.

In the time which has elapsed since the publication of the early numbers of this work many changes have taken place in Botanical nomenclature, many reforms which by limiting more strictly generic characters, have led to many subdivisions of old genera. The natural order of the Gramineæ in particular has been remodelled, and in some of the most natural families, the Cruciferæ, the Umbelliferæ, and the Compositæ, an almost entirely new distribution of the species has taken place. It would require a new edition rather than a supplement, to indicate all of these changes, and any one who is conversant with the Genera as determined by Schreber and Willdenow, will readily comprehend the principles on which these changes have been made, and the characters of the new genera which have been adopted or proposed. Most of the alterations which have been made in American plants will be found in Nuttall's "Genera of North American Plants," or in the valuable Flora of the Northern States now publishing by Dr. Torrey of New-York.

If however the friends who have hitherto by their contributions added so much to the value of this work shall not find their patience exhausted; if they and if others who may be attracted to the study of this interesting science will continue to communicate to the author such plants as he may appear to have omitted, such as he may have inaccurately or imperfectly described, and will point out errors of any kind which he may have committed, he may hope at a future day to present this work in a form more worthy of their approbation.

To those friends he feels gratified to make public his acknowledgements. With the late Dr. Muhlenberg of Lancaster, Penn. he was accustomed for many years to compare and collate the plants of Carolina and Pennsylvania, and derived from this correspondence much instruction when his attention was first directed to Botanical pursuits.

To Dr. Lewis de Schweinitz he is indebted for notes on many genera and species of our plants, for a long and friendly correspondence, and for many specimens of plants from North-Carolina.

To Zaccheus Collins, Esq. of Philadelphia, he wishes to return his thanks for repeated acts of kindness, for many and very beautiful specimens of Northern plants which served him as standards of comparison, for some rare and interesting minerals, and for much information on subjects connected with his researches.

To Dr. John Torrey of New-York, he is indebted for many of the plants of New-Jersey and New-York, for an opportunity of comparing many doubtful species, and of ascertaining many of the plants of Pursh which were to him uncertain or obscure.

To Mr. Rafinesque of Lexington, Kentucky, he is under obligations for many plants of the Western States, and for the pleasure of an interesting correspondence.

To Dr. Bigelow and Mr. F. Boott of Boston, he wishes also to express his obligations for many very beautiful specimens of plants from the Eastern States.

To Mr. Nuttall he is also indebted for some rare plants from the Arkansaw and Missouri.

To those who have aided him in collecting the plants from which this sketch has been compiled, he feels his manifold obligations; he wishes to express them particularly to Mr. James Jackson of Louisville, Georgia, from whom he has received many new and many rare plants, and whose notes have always rendered his specimens more valuable.

To Dr. Samuel Boykin of Milledgeville, who residing in a most interesting district of country, has added much to his knowledge of its Flora by the valuable collection of specimens occasionally sent him.

To Mr. N. Herbemont of Columbia, South-Carolina, for many specimens of rare plants, collected around Columbia and in the upper districts of Carolina.

To Dr. Wm. Baldwin of the United States Navy, a Botanist of distinguished talents and indefatigable activity, who while residing in the southern districts of Georgia communicated many new species to the early numbers of this work, and would have continued to enrich it with his discoveries if he had not unfortunately been recalled to other stations and to climes less favourable to his health. In the pursuit of his favourite studies he died on the banks of the Missouri, in the expedition of Major Long to the Rocky Mountains.

But principally to the late Dr. James Macbride a tribute is due not only for the services which he himself actually rendered, but for the contributions which he induced others to offer. Devotedly attached to science, he had the talent to make it popular wherever his influence extended. Profoundly skilled in his profession and high in the confidence of his fellow citizens, he fell a victim to the fatigues and exposure of an extensive practice. In the midst of a brilliant career, with prospects of increasing usefulness and extended reputation, he died at the early age of 33. He left to many friends a mournful inheritance—the task of lamenting one so highly gifted, so prematurely lost. To HIS MEMORY THIS VOLUME IS INSCRIBED as a testimonial of long continued friendship and of unabated respect. It is among the incidents which embitter life that those who have shared in common labours should so often be separated before the termination of their pursuits. The individuals who took most interest in the compilation of this sketch, scarcely lived to see the commencement of its publication. IT IS TO THE DEAD THE AUTHOR HAS TO CONSECRATE THE RESULT OF HIS LABOURS.

SKETCH

OF

THE BOTANY

OF

South-Carolina and Georgia.

CLASS XIII.

POLYANDRIA.

MONOGYNIA.

329 TILIA.
330 HELIANTHEMUM.
331 NYMPHÆA.
332 NUPHAR.
333 SARRACENIA.
334 ARGEMONE.
335 SANGUINARIA.
336 PODOPHYLLUM.
337 ACTÆA.

DI—PENTAGYNIA.

338 CIMICIFUGA.
339 DELPHINIUM.
340 ACONITUM.
341 AQUILEGIA.
342 ASCYRUM.
343 HYPERICUM.
344 ELODEA.

POLYGYNIA.

345 ILLICIUM.
346 MAGNOLIA.
347 LIRIODENDRUM.
348 ASIMINA.
349 CLEMATIS.
350 THALICTRUM.
351 ANEMONE,
352 HEPATICA.
353 HYDRASTIS.
354 RANUNCULUS.
355 CALTHA.
356 BRASENIA.
357 CYAMUS.

TILIA. Gen. pl. 948.

Calyx inferior, 5-partitus, deciduus. *Petala* 5. *Capsula* immatura 5-locularis, 5-valvis, 5-sperma; matura submonosperma, basi dehiscens.

Calyx inferior, 5-parted, deciduous. *Petals* 5. *Capsule* when immature 5-celled, 5-valved, 5-seeded; when mature 1-seeded, opening at base.

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1. Glabra, Vent.

T. foliis suborbiculato-cordatis, acuminatis, argute serratis, glabris; petalis apice truncatis; nuce ovali. Pursh, 2. p. 362.

Leaves cordate, nearly orbicular, acuminate, acutely serrate, glabrous; petals truncated at the summit; nut oval.

T. Americana, Sp. pl. 2. p. 1162. Mich. arbr. Vol. 3. p. 311. t. 1.
T. Canadensis, Mich. 1. p. 306.

A large and ornamental tree, growing in favorable soils, 70 to 80 feet high, and 3—4 in diameter. *Leaves* alternate, large, with large and very acute serratures, cordate at base, and sometimes obliquely truncated. *Flowers* in small cymes, of a greenish yellow colour. *Peduncles*, as in all the species of this genus, somewhat geniculate, and attached at base to the middle of an oblong, membranous, strongly veined and almost reticulate bractea.

The bark of this tree, commonly known under the name of bass-wood, spoon-wood, is thick and fibrous, and when macerated and prepared, is used on farms for many domestic purposes, where coarse cordage is required. The wood is white and soft, and is much used in the northern States by cabinet and carriage makers. In the southern States it is generally confined to the mountains. Mich.

Grows in rich, light soils, in the vallies of the Alleghany mountains.
Flowers May—June.

2. Laxiflora. Mich.

T. foliis cordatis, sensim acuminatis, rariter dentatis, membranaceis, glabris; paniculis laxifloris; stylo petalis longiore.

Leaves cordate, gradually acuminate, sparingly toothed, membranaceous, glabrous; panicles loosely flowered; style longer than the petals.

Mich. 1. p. 306. Pursh, 2. p. 363.

With this tree, whose description I have taken from Pursh, and which he considers as a species very distinct from the preceding, I am unacquainted. The reference to Michaux possibly belongs to the next species.

Grows along the sea coast from Maryland to Georgia.
Flowers May and June.

3. PUBESCENS.

T. foliis obliquis, cordatis truncatisque, acuminatis, denticulato-serratis, subtus pubescentibus ; cymis confertifloris ; stylo petalis subæquali ; nuce globosa.

Leaves obliquely cordate and truncate, acuminate, denticulate and serrate, pubescent underneath; cymes with crowded flowers; style as long as the petals; nut globose.

Sp. pl. 2. p. 1162. Pursh, 2. p. 363.
Mich. Arb. 3. p. 317.

A Tree 20-50 feet high, with the old branches glabrous, the young ones very pubescent. *Leaves* alternate, cordate, obliquely truncated, so as sometimes to efface the sinus at base, slightly acuminate, serrate, glabrous on the upper surface, underneath slightly scabrous and very pubescent when young, the down wearing off by age. *Petiole* and *peduncles* pubescent. *Cymes* axillary.—*Bractea* oblong oval, as long as the cymes, entire, veined, scabrous, of a yellowish green colour. *Calyx* deeply divided, deciduous; leaflets ovate, lanceolate, acute, white, somewhat woolly. *Petals* nearly lanceolate, obtuse, white, longer than the calyx. *Nectary* composed of 5 small leaves, obovate, crenate, shorter than the calyx, enveloped by the petals, and attached with them to the base of the germ. *Filaments* numerous (nearly 50,) united in five clusters, splitting finally to the base; shorter than the corolla, white, 2 cleft at the summit; anthers incumbent, 2 lobed, with the lobes distinct. *Germ* superior, ovate, sulcate, hairy. *Stigma* obtuse. *Capsule* globose, coriaceous, generally marked with sutures where the 5 valves unite, bursting tardily at base, at first 5 celled, but rarely maturing more than one seed. *Seed* round, smooth.

Grows in fertile soils along the sea coast of Carolina and Georgia.
Flowers May, June.

HELIANTHEMUM. Tourn.

Calycis laciniæ 5, sæpius inæquales, 2 extimis minoribus. *Petala* 5. *Capsula* 1-locularis, 3-valvis; medio septiferis.

Segments of the calyx 5, often unequal, the 2 exterior small. *Petals* 5. *Capsule* 1-celled, 3-valved; valves bearing a partition in the middle.

* *Exstipulata; herbacea.*

* *Herbaceous, without stipules.*

1 CANADENSE.

H. foliis alternis, lineari-lanceolatis, planis, subtus tomentosis; racemis terminalibus, paucifloris; calycis laciniis lato-ovatis, acuminatis; capsulis calyce brevioribus.

Leaves alternate, linear lanceolate, flat, tomentose underneath; racemes terminal, few flowered; segments of the calyx broad ovate, acuminate; capsules shorter than the calyx.

Mich. 1. p. 308. Pursh, 1. q. 363.
Cistus Canadensis. Sp. pl. 2. p. 363.

Root perennial; *Stem* herbaceous, erect, 6-10 inches high, tomentose when young. *Leaves* oval, entire, rather obtuse, pubescent, and tomentose on the under surface, nearly sessile. *Racemes* few flowered, generally terminal, pedicels solitary. *Flowers* yellow.
Grows in dry soils.
Flowers May—June.

2. RAMULIFLORUM. Mich.

H. foliis alternis, oblongis ovalibusque, subtus tomentosis; ramulis brevibus, summitate subtrifloris; calycibus fructiferis globosis. Mx.

Leaves alternate, oblong and oval, tomentose underneath; branches short, generally 3-flowered at the summit; calyx of the fruit globose.

Mich. 1. p. 307. Pursh, 2. p.

Whole plant tomentose, 6-10 inches high. *Leaves* generally oval, 2 exterior leaves of the *calyx* linear. *Corolla* yellow, and, with the leaves, longer than in the preceding species. Unless the H. ramuliflorum of Michaux has been misunderstood by our Botanists, it requires a careful comparison with the preceding species. Excepting in the size of the leaves and flowers, our Southern plant differs very little from specimens of the H. Canadense which I have received from New-York.
Grows in dry, sandy soils. Common along the sea-coast.
Flowers April—May.

3. **Carolinianum.** Walt.

H. hirsutum; foliis ovalibus, subdenticulatis; pedunculis solitariis, intra axillaribus unifloris; calyce capsulam superante.

Hirsute: leaves oval, sparingly toothed; peduncles solitary, 1-flowered, between the axils; calyx longer than the capsule.

Mich. 1. p. 307. Pursh. 2. p. 364.
Cistus Carolinianus. Walt. p. 152.

Root perennial. *Stem* erect, herbaceous, 8-12 inches high, generally purple, variegated with white stellular pubescence. *Leaves* nearly sessile, crowded at the base of the stem, sometimes nearly round, very villous, pubescence as on the stem stellular. *Flowers* few, near the summit of the stem, larger than those of any other of our species, bright yellow. *Peduncles* nearly an inch long. *Calyx* 5 leaved, persistent, the two exterior leaflets linear, generally expanding; the three interior, larger, ovate lanceolate, acuminate, 3 nerved, covering the capsule. *Petals* twice as long as the calyx. *Filaments* numerous (30-40,) attached to the base of the germ, unequal, much shorter than the corolla. *Germ* superior, ovate, glabrous. *Style* very short. *Stgima* globose, obscurely 3-lobed. *Seed* numerous, small, attached by the base to a central receptacle.

Grows in dry and moderately fertile soils.

Flowers May to June.

This is an ornamental plant, but its flowers, as in this whole genus, only expand for a few hours in the morning.

4. **Corymbosum.** Mich.

H. foliis oblongo-ovalibus lanceolatisque, tomentosis, subtus canescentibus; corymbis multifloris, fastigiatis.

Leaves oblong oval and lanceolate, tomentose, underneath hoary; corymbs many flowered, fastigiate.

Mich. 1. p. 307. Pursh. 2. p. 364.

Roots creeping? perennial. *Stem* about a foot high, sometimes branching, very tomentose when young, pubescence (as perhaps in all of the species) stellular. *Flowers* very much crowded in the corymb.—*Calyx* villous, about as long as the capsule; the two exterior leaves long and linear. *Corolla* yellow. The flowers in this species are much smaller than those of the H. Carolinianum, but nearly equal in size those of our other species. Frequently in a corymb, one or two flowers rise conspicuously above the rest, and the capsules then become much larger.

Grows in poor, dry, sandy soils, along the sea-coast of Carolina and Georgia.

Flowers April, May, and again in October.

5 ROSMARINIFOLIUM?

H. erectum, ramosum, tomentosum; foliis linearibus, marginibus revolutis; racemis parvis, axillaribus, confertifloris.	**Erect, branching, tomentose; leaves linear, with the margins revolute; racemes small, axillary; flowers crowded.**

Pursh. 2. p. 364.

Stem erect, 12-18 inches high, apparently more frutescent than in any other of our species, branches simple and slender. *Leaves* and the whole plant, covered with a hoary down. *Racemes* about half as long as the leaves, many flowered. *Calyx* very small, the two exterior leaves linear. *Corolla* twice or three times as large as the calyx, bright yellow.

This plant differs so much in habit and appearance from the other species of this genus, as to excite some suspicion of its real connection with them. I collected it whilst travelling hastily in the upper country without leisure to examine it. Specimens which I sent to Dr. Muhlenberg, were marked by him as a variety of the H. Canadense. Under this impression it remained in my Herbarium until lately, when having received specimens of the H. Canadense from New-York, from my friend Mr. Raffinesque, and perceiving their entire resemblance to one of our own common species, I was led again to examine this plant. My specimens appear to agree exactly with the H. Rosmarinifolium of Pursh, described from specimens collected by Mr. Enslen in the middle districts of Georgia. I have therefore described them under this name.

Grows at Rocky mount on the Catawba River.

Flowers June, July.

NYMPHÆA. GEN. PL. 886.

Calyx 4—5-phyllus. *Petala* plurima, germini sub staminibus inserta. *Stigma* radiatum, sessile, medio nectariferum.—	*Calyx* 4—5-leaved. *Petals* numerous, inserted on the germ under the stamens. *Stigma* radiated, sessile, bearing a necta-

Bacca multilocularis, polysperma.	ry in the middle. *Berry* many celled, many seeded.

1. ODORATA.

N. foliis orbiculato-cordatis, integerrimis, subemarginatis, lobis divaricatis, acumine obtuso; petalis calcyi 4-phyllo æqualibus; stigmate radiis 16–24 erectis. Sp. pl. 2. p. 1153.	Leaves orbiculate cordate, entire, slightly emarginate, the lobes divaricate, with their points obtuse; petals as long as the 4-leaved calyx; stigma erect, with 16—24 rays.

Pursh. 2. p. 368.
Nymphæa alba. Walt. p. Mich. 1. p. 311.

Root perennial, creeping, tuberous, nodose and woody. *Stem* 0. *Leaves* on the summit of long, smooth, somewhat spiral petioles 1—6 feet long (so as to support the leaf always on the surface of the water,) peltate-cordate, circular in its outline, slightly emarginate, coriaceous, glabrous; dotted and strongly veined and generally coloured underneath. *Peduncles*, like the petioles, spiral, rising to the surface of the water, bearing one terminal flower. *Calyx* 4-leaved, leaflets lanceolate, coriaceous, glabrous. *Petals* about 30, large lanceolate, somewhat obtuse, very white. *Filaments* very numerous, the exterior ones larger, lanceolate, slightly acuminate. *Anthers* attached to the margins of the filaments. *Germ* thick, somewhat cylindrical. *Style* none. *Stigma* large, concave, yellow, bearing a globular nectary in the centre, with the margin radiated, and the rays linear, incurved. *Fruit* a rude berry, many celled. *Seed* small, oval, numerous in each cell.

The number of cells in the berry, is, I believe, always equal to the number of rays in the stigma, it might therefore be considered a polygynous plant with the stigmas firmly united.

The flowers of this plant are among the most ornamental in our country. The white petals, and the yellow stamens and stigma, are all conspicuous from the brilliancy of their colors. When recently gathered, they are fragrant; but the odour in a short time becomes strong and disagreeable.

Grows every where in shallow stagnant or slowly running streams of fresh water.

Flowers March to October.

NUPHAR. Smith.

Calyx 5—6 phyllus. *Petala* plurima, receptaculo cum staminibus inserta, dorso nectarifera. *Stigma* radiato-sulcatum, sessile. *Bacca* multilocularis, polysperma.

Calyx 5—6-leaved. *Petals* numerous, inserted on the receptacle with the stamens, nectariferous on the back. *Stigma* radiated, furrowed, sessile. *Berry* many celled. many seeded.

1. Advena?

N. foliis cordatis, integerrimis, lobis rotundatis; calyce 6-phyllo; stigmate leviter umbilicato, 10—14 radiato; pericarpio sulcato.

Leaves cordate, entire, with the lobes round; calyx 6-leaved; stigma slightly umbilicate, with 10—14 rays; pericarp furrowed.

Pursh 2. p. 369.
Nymphæa Advena. Sp. pl. 2. p. 1152. Mich. 1. p. 311.
Nymphæa lutea. Walt. p. 154.

Root perennial, tuberous, creeping. *Leaves* on spiral petioles, large, exactly cordate (with lobes somewhat truncate,) coriaceous, glabrous, sometimes erect, sometimes floating on the surface of the water. *Flowers* solitary, terminal, on spiral peduncles, generally elevated a few inches above the surface of the water. The three exterior leaves of the *calyx* small, round, green; the three interior larger, round, yellow, tinged with green at base. *Filaments* very short. *Stigma* with 10 to 14 rays and the margin entire.

Grows in the fresh water rivers; abundant about the head of tide water, rarely found in the vicinity of salt water.

Flowers from April to August; perhaps later.

2. Sagittæfolia. Walt.

N. foliis elongatis, sagittato-cordatis, obtusis; calyce 6-phyllo,

Leaves long, cordate and sagittate, obtuse; calyx 6-leav-

petalis nullis, antheris subsessilibus.	ed; petals 0; anthers nearly sessile.

Pursh. 2. p. 370.
Nymphæa sagittifolia. Walt. 155.
Nymphæa longifolia. Mich. 1. p. 312?

Leaves floating, oblong, 6—8 inches long, 2—3 wide, sagitate at base, thinner than usual in this genus and in its kindred genera. *Pericarp* rather small, ovate. *Stigma* with 14 rays, margin entire.

Grows in the Pee Dee river above the head of tide water.

To me a rare species. The flowers I have never seen. Found with mature fruit in the middle of November.

SARRACENIA. Gen. Pl. 885.

Calyx duplex persistens exterior minor, 3-phyllus, interior 5-phyllus. *Petala* 5. *Stigma* maximum pentagonum, clypeatum persistens. *Capsula* 5-locularis, 5-valvis, polysperma.	*Calyx* double, persistent, the exterior small, 3-leaved, the interior 5-leaved, *Petals* 5. *Stigma* very large, 5-angled, peltate peristent. *Capsule* 5-celled, 5-valved, many seeded.

1. Purpurea.

S. foliis brevibus, tubo ventricoso, fauce coarctato; ala ventrali amplissima, arcuata; appendice erecta, reniformi; flore purpureo.	Leaves short with the tube ventricose, contracted at the throat; longitudinal wing very large, arched; appendix erect, reniform; flowers purple.

Sp. pl. 2. p. 1150. Walt. p. 152. Mich. 1. p. 310. Pursh. 2. p. 367.

Root perennial. *Leaves* as in all of the species springing from the root, 4—6 inches high, hollow, tubular, bulging in the middle, contracted at the throat, the appendage large, reniform, emarginate very hairy on the inner surface. *Scape* about a foot high, bearing a solitary terminal flower, exterior *Calyx* very small, the interior large and coloured, (purple.)

Corolla larger than the calyx. *Petals* obovate, bright purple. *Stamens* numerous, short. *Germ* superior. *Style* short. *Stigma* very large covering the stamens. *Seeds* attached to a central receptacle.

Grows in wet swampy lands in the middle districts of Carolina and Georgia, rarely found along the sea coasts.

Flowers April and May.

2. RUBRA. Walt.

S. foliis gracilibus, ala ventrali lineari; appendice ovata, erecta, obtusa, mucronata, basi sub coarctata; floribus rubro-purpureis.	Leaves slender, longitudinal wing linear; appendix ovate, erect, obtuse, mucronate, contracted at base; flowers purple.

Walt. p. 152 Sp. pl. 2. p. 1150.

Leaves slender from 6 to 10 inches high; tube regular, increasing to the summit; throat not contracted; appendix slightly contracted at base, erect, cloathed with very fine hair on its inner surface, marginal wing narrow, nearly uniform in its whole length. *Flowers* much smaller than in the preceding species. *Petals* obovate, attenuated at base of a dark reddish purple.

The S. Psyttacina of Michaux, (vol. 1. p. 311.) has been usually referred to this species, yet in many respects particularly in its recurved, fornicated appendix, it appears materially to differ, and may possibly be found to constitute a distinct species.

Grows in bogs and swamps in the middle country of Carolina.

Flowers April and May.

3. FLAVA.

S. foliis majusculis, infundibuliformibus, fauce patula; ala ventrali subnulla; appendice erecta, basi coarcta, lateribus retroflexis; floribus flavis.	Leaves large, funnel shaped, with the throat expanding, and scarcely any longitudinal wing; appendix erect, contracted at base, reflected at the sides; flowers yellow.

Sp. pl. 2. p. 1150. Walt. p. 153. Mich. 1. p. 310. Pursh. 2. p. 367.

The largest species of this genus. *Leaves* 18—24 inches high, large and generally dilated at the summit of the tube; appendix large, reniform, mucronate, very much contracted at the base, with the sides reflected, cloathed on the inner surface, with very fine hair scarcely visible without the aid of a glass. *Flowers* very large. *Petals* oblong, obovate, yellow. *Stigma* nearly two inches in diameter, with each angle two cleft.

Grows in swamps, abundant in the middle districts of Carolina and Georgia, rarely found along the sea coast.

Flowers in April.

4. CATESBÆI. E.

S. foliis stricte erectis; tubo infundibuliformi; ala ventrali lineari; fauce recto; appendice erecta, subreniformi, reticulata, venis coloratis.	Leaves firmly erect; tube funnel shaped, longitudinal wing linear;throat straight; appendix erect, somewhat reniform, reticulate with colored veins.

Catesby, tab. 69. f. b.

Leaves 12—18 inches high, regularly tapering to the base; the upper part of the leaves and the appendix distinguished by their coloured veins, the inner surface of the appendix covered by long and very conspicuous hair

This plant which has been probably united with the S. Flava, and which can be connected with no other species, appears to me sufficiently distinct; it differs by its rigidly erect leaves, by its throat which is straight and not expanding, and by its appendix of which the sides are not reflected. It differs also from the S. Flava by its darkly colored purple veins and hairy appendix. My specimens agree exactly with the figure in Catesby, to which I have referred and were collected by Dr. Macbride along the margins of the rivulets amidst the high sand hills of Chesterfield district in S. Carolina.

The flowers I have not seen.

5. VARIOLARIS. Mich.

S. foliis paulo ventricosis, tubo superne dorso maculato; appendice fornicata, incurvata; ala ventrali	Leaves slightly ventricose, with the tube near the summit spotted on the back; appendix arched, in-

sub dilatata; floribus flavis.	curved; longitudinal wing slightly dilated; flowers yellow.

Mich. 1. p. 310. Pursh. 2. p. 367.
S. Minor Walt. p. 153. Sp. pl. 2. p. 1150.
S. Adunca. Smith Ex. Bot. 1. tab. 53.

Leaves 12—18 inches high. *Tube* a little ventricose, colored near the summit, and curiously marked on the back with transparent spots. Appendix arched and vaulted so as in this species nearly to cover the contracted throat. Wing along the central suture more dilated than in any other species except the S. purpurea. *Petals* spathulate-obovate, yellowish. *Stigma* acute at the angles.

Grows around pine barren ponds, very common along the sea coast of Carolina and Georgia.

Flowers in April and May.

The plants belonging to this genus, form one of the most singular varieties which the vegetable creation exhibits. Their long tubular leaves always contain water, produced probably by secretion, and are generally filled for two or three inches, with dead and decaying insects. How far the water contained in these leaves may be necessary to the support of the plant, has not yet been sufficiently ascertained, but the insects although attracted and destroyed by its very remarkable structure, yet can have little or no connection with its existence. For the first accurate examination of these leaves, I believe, we are indebted to the late Dr. Macbride. Some of his observations on the Sarracenia have been published in the transactions of the Linnæan Society of London, (Vol. 12.) and some remain among the unpublished papers of the Literary and Philosophical Society of South-Carolina.

It may be sufficient here to remark that the throat or orifice of these leaves is generally covered with a saccharine secretion or exudation. Immediately below the throat for the space of nearly an inch, the surface is highly polished, while the lower part of the tube is covered with hairs all pointing downwards. When an insect attracted in the first instance by the secretion of the plant, or perhaps even by the water descends as it easily can do along this declining pubescence, it appears incapable of ascending by its feet alone and canonly escape by a flight so perpendicular as to surpass the power of most insects. Whenever they touch the bristly sides of the tube they are precipitated again to the bottom, and have to renew their efforts, and many insects even of a large size perish in this arduous and hopeless struggle.

ARGEMONE. Gen. Pl. 882.

Calyx 3-phyllus, deciduus. *Petala* 6.	*Calyx* 3-leaved, deciduous. *Petals* 6.

1. MEXICANA.

A. capsulis 5-valvibus; foliis pinnatifidis incisis spinosis; floribus axillaribus.

Capsules 5-valved; leaves pinnatifid, notched, spiny; flowers axillary.

Sp. pl. 2. p. 1148. Walt. p. 153. Pursh 2. p. 366.

Annual. *Stem* erect, about 3 feet high, branching, armed with small prickles, and when broken or wounded discharging a coloured sap. *Leaves* alternate, sessile, embracing the stem, lobed and angled somewhat glaucous, glabrous, but with the margins and veins underneath armed with prickles. *Flowers* solitary, axillary. *Peduncles* 1—3 inches long. *Calyx* caducous. *Leaflets* broad, oval, concave, prickly, with the dorsal horn compressed and projecting beyond the summit. *Petals* 6, obtuse, much larger than the calyx, yellow. *Stamens* very numerous as long as the germ. *Germ* superior, furrowed, spiny. *Style* very short. *Stigma* dilated, 5 lobed with the lobes reflected, forming 5 cylindrical tubes. *Capsule* oval, spiny, divided about half way down into 5 valves; 1 celled. *Seeds* numerous, globose, reticulate, attached to the interior angle of the valve.

The variety with white flowers is an ornamental plant, and is probably a distinct species, but the notes which I formerly took have been mislaid, and I have had no opportunity for a few years past of comparing the two plants in a living state.

Grows in dry soils around buildings and is probably a naturalized exotic

Flowers June to August.

SANGUINARIA. GEN. PL. 878.

Calyx 2 phyllus, caducus. *Petala* 8-14. *Capsula* superior, utrinque attenuata, 2 valvis 1 locularis. Receptacula 2, filiformia, marginalia.

Calyx 2 leaved, caducous. *Petals* 8-14. *Capsule* superior, tapering at each end, 2 valved, 1 celled. Receptacles 2, filiform, marginal.

1. CANADENSIS.

Sp. pl. 2. p. 1140. Gron. Virg. p. 80. Walt. p. 153. Mich. 1. p. 309. Pursh. 2. p. 366. Bigelow Med. Bot. 1. p. 75. t. 7.

Root perennial, oblong, tuberous, succulent, externally brown, emitting when cut or broken a bright orange coloured juice. *Stem* 0. A single leaf and flower generally proceed from each bud of the tuber enveloped at base with glaucous and somewhat succulent sheaths. *Petioles* 2—4 inches long. *Leaves* reniform lobed, distinctly veined, glaucous, very glabrous. *Flowers* rising in front of the leaf by which it appears to be enfolded when young. *Peduncle* 2—6 inches long, smooth. *Leaves* of the calyx ovate, obtuse. *Petals* variable 8—10—12 or more, appearing sometimes like a double flower, white. *Stamens* numerous, shorter than the corolla. *Style* 0. *Stigma* thick, slightly furrowed. *Capsule* oblong lanceolate. *Seeds* numerous, compressed.

Grows in rich dry soils, meriting culture as an ornamental plant both on account of its leaf and flower.

Flowers February, March.

PODOPHYLLUM. Gen. Pl,

Calyx 3-phyllus. *Petala* 9. *Stigma* plicatum, crenatum. *Per.* bacca, 1-locularis, polysperma.

Calyx 3-leaved. *Petals* 9. *Stigma* plaited, crenate. *Pericarp* a berry, 1-celled, many seeded.

1. Peltatum.

Sp. pl. 2. p. 1141. Gron. Virg. p. Walt. p. 153.
Mich. 1. p. 309. Pursh. 2. p. 366.

Root perennial, creeping, tuberous. *Stem* herbaceous, erect, 4—8 inches high, glabrous, generally streaked, dividing near the middle into 2 equal branches, each bearing a terminal peltated leaf, clothed at base with a membranaceous persistent sheath. *Leaves* peltate, deeply 5 lobed, lobe dissected and toothed, glabrous on the upper surface, slightly pubescent underneath along the veins and margin. *Flower* solitary in the division of the stem. *Peduncle* 1 1-2 inches long, slightly incurved. *Petals* 6—9 connivent, caducous, white. *Filaments* 12 to 16 much shorter than the corolla, flat. *Anthers* oblong attached to the sides of the filaments. *Germ* superior. *Style* short thick. *Seeds* attached to a pulpy receptacle.

Grows in patches in close soils.

Flowers February, March.

ACTÆA. Gen. Pl.

Calyx 4-phyllus deciduus. *Petala* 4. *Filamenta* plurima, antheris introrsis. *Stylus* 0. *Stigma* capitatum. *Bacca* superior, 1-locularis, polysperma.

Calyx 4-leaved, deciduous. *Petals* 4. *Filaments* numerous with the anthers turned inwards. *Style* 0. *Stigma* capitate. *Berry* superior, 1-celled, many seeded.

1. PACHYPODA. E.

A. foliis decompositis, foliolis ovatis, acuminatis, inciso serratis; baccis parvulis, pedicellis incrassatis suffultis.

Leaves decompound, leaflets ovate, acuminate, deeply serrate; berries small, supported on thick footstalks.

Big. Flor. Bos. page 129.
A. brachypetala, var. microcarpa. De Candolle Reg. Veg. 1. p. 385.

Root perennial. *Leaves* compound, acutely serrate, notched, slightly pubescent along the veins, the terminal leaflets frequently three lobed and somewhat cordate at base. *Flowers* crowded in terminal racemes. *Berry* small sitting on singularly thickened pedicells, which seem at base partly to embrace the stem and nearly equal in diameter the berry itself.—The Flowers I have not seen. Gathered by Dr. Macbride on the Saluda Mountains.

However nearly this plant may be allied to Cimicifuga; its berried fruit I think should preserve its as a distinct genus. Macrotys may be properly connected with Cimicifuga as they differ in no respect but in the number of their germs.

DI—PENTAGYNIA.

CIMICIFUGA. GEN. PL. 993.

Calyx 4—5 phyllus. *Petala* 4. *Capsulæ* 1—5 seu plures, oblongæ, sutura laterali dehiscentes, polyspermæ.

* *Flores monogyni. Macrotys, Raf.*

Calyx 4—5 leaved. *Petals* 4. *Capsules* 1—5 or more, oblong, opening along a lateral suture, many seeded.

* *Flowers monogynous.*

1. RACEMOSA.

C. foliis decompositis, foliolis ovato-oblongis, incisis, dentatis; racemis elongatis, subpaniculatis; floribus monogynis; capsulis ovatis.

Leaves decompoud; leaflets ovate, oblong, notched, dentated; racemes long, somewhat paniculate; flowers monogynous; capsules ovate.

C. serpentaria, Pursh. 2. p. 372.
Actæa racemosa. Sp. pl. 2. p. 1139. Mich. 1. p. 308. De Candolle. 1. p. 382.
Actæa monogyna. Walt. p. 151.

Root perennial. *Stem* herbaceous, 2—3 feet high, pubescent. *Leaves* decompound, acutely serrate, and notched. *Flowers* in long terminal, somewhat paniculated racemes. *Calyx* and *Corolla* small, caducous. *Flowers* nearly white. *Stamens* longer than the petals. *Style* sometimes, though rarely, 2. *Capsules* 2-valved. *Seeds* imbricate.

Grows very abundantly in the upper districts of Carolina and Georgia. Its long racemes of white flowers make it very conspicuous, but its odour is unpleasant if not offensive.
Flowers June, July.

*** Flores Polygyni.*

*** Flowers Polygynous.*

2. PODOCARPA. De Cand.

C. germinibus 4–5, pedicellatis, glabris; racemis paniculatis; foliis decompositis.

Germs 4–5, pedicellate, glabrous; racemes paniculate; leaves decompound.

C. Americana Mich. 1. p. 316.
Actæa Podocarpa. De Candolle 1. p. 382.

Perennial; *Stem* herbaceous, 2 feet high, with the habit of C. racemosa. *Calyx* of five ovate concave leaves. *Capsules* 4 or 5, smooth, compressed, pointed with the styles, and each supported by a stalk half of its own length.—De Candolle.

Grows in the mountains of Carolina. Mich.
Flowers August, September.

3. CORDIFOLIA. Pursh.

C. germinibus 2–3, glabris, sessilibus; racemis paniculatis; foliis biternatis, foliolis 5–7 lobatis, serratis, basi cordatis. Pursh. 2. p. 373.

Germs 2—3, glabrous, sessile; racemes paniculate; leaves biternate, leaflets 5–7 lobed, serrate, cordate at base.

Actæa cordifolia. De Candolle 1. p. 383.

Resembles C. racemosa and podocarpa, differing from the former in having numerous capsules, from the latter in their being sessile. *Leaves* smooth. *Racemes* long, smooth.

Grows in the mountains of Carolina.
Flowers July.

4 PALMATA. Mich.

L. germinibus plurimis 12-15; floribus dichotome-paniculatis, subcorymbosis; capsulis brevissimis, subgloboso-capitatis; foliis simplicibus, palmatis.

Germs numerous, 12–15, flowers in a dichotomous panicle, somewhat corymbose; capsules very short, forming globular heads; leaves simple, palmate.

Mich. 1. p. 316. Pursh. 1. 373.
Actæa Palmata. De Candolle 1. p. 383.

Root perennial. *Stem* 2–3 feet high, pubescent at the summit.—*Leaves* generally 2, palmate, 5-lobed, strongly veined, lobes acutely serrate, and notched. *Flowers* in corymb like panicles. *Calyx* and *Corolla* caducous. *Stamens* much longer than the styles. *Capsules* distinctly ribbed, forming small compact heads.

This plant, though belonging to the same natural family, yet differs in habit, in foliage, and in the number of its styles from the preceding species.

Grows among the mountains of Carolina.
Flowers June, July.

DELPHINIUM. Gen. Pl.

Calyx 0. *Petala* 5. *Nectarium* 2-fidum, postice in calcar cavum productum. *Capsulæ* 1-3	*Calyx* 0. *Petals* 5. *Nectarium* 2-cleft at base extends into a hollow spur. *Capsules* 1-3.

1. Tricorne.

D. petiolis basi vix dilatatis,glabris; foliis 5-partitis; lobis 3-5 fidis, lobulis linearibus; nectario corolla breviore; capsulis a basi patulo—reflexis arcuatis.	Petiole at base scarcely dilated and glabrous; leaves 5 parted, lobes 3-5 cleft with the segments linear; nectary shorter than the corolla; capsules arched, expanding from the base.

Mich. 1. p. 314. Pursh. 2. p. 371. De Candolle 1. p. 356.

Root perennial, somewhat tuberous. *Stem* 8—12 inches high, glabrous. *Petioles* 2—4 inches long, pubescent near the summit. *Flowers* in terminal racemes, large, bright blue, hairy on the outside. *Spur* straight, shorter than the corolla. *Capsules* 3, divaricate, acuminated with a persistent style.

Grows among the highest mountains of Carolina. Mich.
Flowers April and May.

2. Azureum.

D. petiolis basi vix dilatatis; foliis 3—5 partitis, multifidis, lobis linearibus; racemo stricto; nectario apice barbato, basi et latere inferiore villosissimis.	Petals scarcely dilated at base; leaves 3—5 parted, many cleft, with the segments linear; racemes straight; nectary bearded at the summit, at base and on the lower side very villous.

Mich. 1. p. 314. Pursh. 2. p. 371. De Candolle 1. p. 356.
D. carolinianum Walt. 135.

Root perennial. *Stem* 3—5 feet high and probably more, pubescent. *Leaves* on short petioles, pubescent, very much dissected, the segments all linear. *Flowers* in long terminal racemes, on short pubescent peduncles, pale blue, rather smaller than in the preceding species, the three upper petals, sprinkled with hair, particularly along the margins, the two lower, as described by Walter, spotted with yellow and very villous.

Grows in the middle districts of Carolina.
Flowers May, June.

3. Exaltatum.

D. petiolis basi non dilatatis; foliis planis ultra medium 3-fidis, lobis cuneiformibus, apice trifidis, acuminatis, lateralibus sæpe bilobis; racemo stricto; calcare recto longitudine corollæ.

Petioles not dilated at base; leaves flat, 3-cleft below the middle, lobes wedge shaped, 3 cleft at the summit, and acuminate, the lateral ones often 2-lobed; racemes straight; spur straight, as long as the corolla.

Sp. pl. 2. p. 1230. Pursh. 2. p. 371. De Candolle 1. p. 357.
D. tridactylum. Mich 1. p. 314.

Stem 2—4 feet high, branching, pubescent towards the summit. *Petioles* 2—5 inches long, pubescent when young, lower leaves divided into 3—5 segments, segments generally tripartite, upper leaves tripartite, segments lanceolate or entire, all pubescent. *Corolla* bright blue, pubescent on the outer surface, the lower petals fringed. *Spur* straight, horizontal, as long as the calyx. *Capsules* 3, straight and pubescent.

Grows among the mountains of Carolina.
Flowers June to August.

ACONITUM. Gen. Pl.

Calyx 0. *Petala* 5, supremo fornicato.—*Nectaria* 2, pedunculata, recurva. *Capsulae* 3 seu 5.

Calyx 0. *Petals* 5, the upper one vaulted. *Nectaries* 2, on peduncles, recurved. *Capsules* 3 or 5.

1. UNCINATUM.

A. caule flexuoso, foliis 3–5 lobato-palmatis, inciso-dentatis; corollarum galea elongata, convexa, rostrata.

Stem flexuous; leaves 3–5 lobed, palmate, notched and toothed; helmet of the corolla long, convex, beaked.

Sp. Pl. 2. page 1238. Mich. 1. p. 315. Pursh. 2. p. 372. De Candolle 1. p. 379.

Perennial. *Stem* twining, branching, pubescent only when very young. *Leaves* coriaceous, truncate at base, deeply lobed, *lobes* somewhat three ribbed. *Flowers* solitary, 3—4 near the summit of each branch on peduncles 1—2 inches long, two small bracteas, generally below the middle of the peduncles. *Flowers* of a bright violet purple, hood large, convex, tapering to an obtuse beak, wings nearly orbicular, the lower petals oblong lanceolate, all a little hairy particularly near the margins. This very ornamental plant grows among the mountains of Carolina.

Flowers June to August.

AQUILEGIA. GEN. PL.

Calyx 0. *Petala* 5. *Nectaria* 5, calcarata inter petala. *Capsulae* 5, distinctæ.

Calyx 0. *Petals* 5. *Nectaries* 5, bearing spurs between the petals. *Capsules* 5 distinct.

1. CANADENSIS.

A. calcaribus rectis; stylis et staminibus exertis; floribus pendulis; foliorum segmentis 3-partitis, apice subobtusis, inciso-dentatis.

Spurs straight; styles and stamens exserted; flowers pendulous; segments of the leaves 3 parted, obtuse at the summit, notched and toothed.

Sp. Pl. 2. p. 1247. Walt. 1. p. 156. De Candolle 1. p. 337.

Root perennial. *Stem* 12—18 inches high, lower leaves on long three cleft footstalks, ternate and biternate, leaflets lobed and crenate, glaucous particularly underneath. *Petals* 5, deciduous. *Nectaries* 5 between the petals, extending into hollow straight spurs, callous at the point. *Nectaries* and *Petals* scarlet tinged with yellow. *Stamens* numerous, disposed into 5 or 10 parcels. *Germs* downy, with long slender styles. *Capsules* many seeded.

Grows in the upper and mountainous districts of Carolina and Georgia. Flowers April—May.

ASCYRUM. GEN. PL. 1225.

Calyx 4-phyllus, 2-interioribus majoribus. *Petala* 4. *Filamenta* in 4-phalanges, digesta. *Capsula* oblonga, 1-locularis, 2-valvis, calyce inclusa.	*Calyx* 4-leaved, the 2-interior larger. *Petals* 4. *Filaments* collected in 4-phalanxes. *Capsule* oblong, 1-celled, 2-valved, included in the calyx.

1. PUMILUM.

A. pusillum, prostratum, ramosissimum; foliis lineari-ovalibus, obtusis; pedunculis longis reflexis; floribus monogynis.	Small, prostrate, much divided; leaves linear-oval, obtuse; peduncles long, reflected; flowers monogynous.

Mich 2. p. 77. Pursh. 2. p. 373.

Stem prostrate, somewhat woody, slightly winged, 6—10 inches long. *Leaves* opposite, sessile, very narrow, dotted, perennial. *Flowers* solitary, axillary, and in the division of the stem. *Peduncles* 1-2 inch to an inch long, reflected, with two stipules near the base. Large leaves of the *calyx* ovate, somewhat acute, and like the leaves marked with pellucid dots. *Petals* obovate, yellow, a little longer than the calyx. *Stamens* numerous, united at the base of the germ, the division into sections not distinct. *Style* 1, shorter than the germ. *Capsule* ovate. *Seeds* attached to the margins of the valves.

This appears to be the A. pauciflorum of Nuttall. I have always considered it the A. pumilum of Michaux, but it is possible that the real plant of Michaux may have escaped my notice.

Grows in dry pine barrens. Common in the upper parts of Chatham county, Georgia.

Flowers March—April.

2. CRUX. ANDREÆ.

A. erectum, multicaule, diffusum; foliis sublanceolato—oblongis, obtusis; corymbo terminali; floribus subsessilibus, 2 gynis; caule subtereti.	**Erect, much divided, spreading; leaves somewhat lanceolate, oblong, obtuse, corymb terminal; flowers nearly sessile, digynous; stem terete.**

Sp. pl. 3. p. 1472. Walt. p. 191. Pursh. 2. p. 373.

A. Multicaule, Mich.

Stem frutescent, 2—3 feet high. *Leaves* small, sessile, and with the calyx dotted. *Flowers* solitary, axillary, and terminal, on short peduncles. The two large leaves of the *calyx* cordate, ovate, acute, nerved, the interior? leaflets very small, ovate-lanceolate, membranaceous, 2 small bracteal leaves at the base of the calyx. *Corolla* yellow. *Petals* oblong, nearly elliptical. *Filaments* about 20, as long as the corolla. *Styles* 2. *Stigmas* single.

This species varies so much in the size and number of its leaves, in its peduncles, and in the number of its styles, that it merits culture to determine whether more than one species are not included under this name.

Grows in all soils excepting those which are inundated.
Flowers through the whole summer.

3. HYPERICOIDES.

A. erectum, parce-ramosum, ramis ancipitibus; foliis oblongis basi biglandulosis; floribus terminalibus, solitariis, breviter pedicellatis, 3-gynis.	**Erect, sparingly branched, with the branches compressed; leaves oblong with 2 glands at base; flowers terminal, solitary, on short peduncles, trigynous.**

Sp. pl. 3. p. 2473. Walt. 191. Pursh, 2. p. 374.
A. Stans. Mich. 2. p. 77.

Stem about 2 feet high, sparingly branched near the summit, with the young branches conspicuously compressed. *Leaves* large (1 to 1 1-2 inches long) entire, dotted. *Flowers* solitary, axillary, frequently opposite. *Peduncles* 1 to 1 1-2 inches long. The exterior leaves of the calyx large, cordate-ovate, nearly round, dotted, nerved. *Corolla* yellow. *Petals* obovate, as long as the calyx. *Filaments* very numerous (60 to 100) shorter than the corolla. *Germ* pyramidal, 3 sided. *Styles* 3, slightly recurved. *Capsule* 3 valved.

Grows generally in damp soils.

Flowers the whole summer.

4. AMPLEXICAULE. Mich.

A. erectum, parce-ramosum; ramis ancipitibus; foliis ovato-oblongis, amplexicaulibus, foliolis calycinis exterioribus cordatis; floribus 3–4-gynis.

Erect, sparingly branched with the branches compressed; leaves ovate, oblong, amplexicaule; exterior leaves of the calyx cordate; flowers 3–4 gynous.

Mich. 2. p. 77. Pursh 2. p. 374.

Stem 1 to 2 feet high, branching towards the summit. *Leaves* cordate, obtuse, closely sitting, and with the calyx conspicuously dotted. *Corolla* yellow. *Petals* obovate. *Stamens* very numerous, about half as long as the corolla. *Styles* frequently 4.

Grows in the southern parts of Georgia, near St. Mary's.

Flowers through the summer.

HYPERICUM. GEN. PL. 1224.

Calyx 5-partitus, laciniis subæqualibus. *Petala* 5. *Filamenta* vix basi connata. *Capsula* ovata; loculis numero stylorum, 1-2-3-5.

* *Trigyna, herbacea.*

Calyx 5-parted, with the segments nearly equal. *Petals* 5. *Filaments* slightly connected at base. *Capsule* ovate, 1-2-3-5 celled.

* *Trigynous, herbaceous.*

1. Parviflorum.

H. erectum, ramosum, glabrum; caule subtetragono; foliis ovato-oblongis, subcordatis, obtusis, nervosis, sessilibus; paniculis terminalibus dichotomo-corymbosis; petalis calyce lanceolato brevioribus.

Erect, branching, glabrous; stem 4-angled; leaves oblong, ovate, somewhat cordate, obtuse, nerved, sessile; panicles terminal, dichotomous, corymbose; petals shorter than the lanceolate calyx.

Sp. pl. 3. p. 1456. Pursh, 2. p. 376.
H. quinquenervium. Walt. p. 190. Mich. 2. p. 79.

Root creeping. *Stem* erect, slender, 1—2 feet high, succulent; branches alternate and opposite. *Leaves* dotted, 5 nerved. *Flowers* solitary, in the division of the stalks. *Peduncles* 2—3 lines long. *Calyx* 5 leaved, *leaves* lanceolate, acute, 3—5 nerved, dotted, 3 large, 2 small. *Corolla* deciduous, yellow. *Filaments* numerous 12—15, longer than the corolla. *Germ* pyramidal. *Styles* 3, short, expanding. *Stigmas* globose. *Capsule* 1 celled, 3 valved.

Grows in damp soils, very common in ditches and around the margins of ponds.

Flowers June, September.

2. Canadense.

H. floribus alaribus, pedunculatis, solitariis; foliis sessilibus, linearibus, basi attenuatis; caule herbaceo, tetragono, superne dichotomo; capsulis longis, conoideis, coloratis.

Flowers solitary on winged peduncles; leaves sessile, linear, tapering at base; stem herbaceous, 4-angled, dichotomous towards the summit; capsules long, conical, coloured.

Sp. pl. 3. p. 1455. Walt. p. 189. Mich. 2. p. 79. Pursh, 2. p. 387.

Stem 1—2 feet high, slightly angled. *Leaves* linear, obtuse, dotted, obscurely 3 nerved, lower branches of the panicle opposite, the upper dichotomous. *Corolla* and *Stamens* about as long as the *Calyx*. *Capsule* much longer than the calyx, of a dull red colour.

Grows in wet Pine barrens.

Flowers July—September.

3, ANGULOSUM.

H. erectum; caule tetragono; foliis oblongo-lanceolatis, acutis, arcte sessilibus; panicula terminali, dichotoma; ramis divaricatis, distanter alternifloris; petalis dente unico laterali.

Erect; stem 4-angled; leaves oblong lanceolate, acute, sessile; panicle terminal, dichotomous; branches divaricate with flowers distant, alternate; petals with one lateral tooth.

Sp. pl. 3. p. 1454. Mich. 2. p. 78. Pursh, 2. p. 387.
H. denticulatum Walt. p. 190.

Stem about 2 feet high, simple, branching towards the summit. *Leaves* appressed, dotted, somewhat amplexicaule at base. *Flowers* scattered in the *Panicle* and alternate, frequently in the division of the stem. *Calyx* somewhat tubular and angled at base. *Cegments* equal, dotted. *Petals* obovate twice as long as the calyx, almost orange colored. *Filaments* numerous, shorter than the corolla. *Styles* 3, frequently united. *Capsule* 3 valved, 1 celled.

Grows in wet Pine barrens.

Flowers May—September.

4. PILOSUM.

H. pilosnm; caule virgato, simplici; foliis patentibus, ovatis, acutis, basi attenuatis; panicula pauciflora. Nutt.

Hairy; stem virgate, simple; leaves expanding, ovate, acute, tapering at base; panicle few-flowered.

Walt. p. 190? Nuttall 2. p. 16.
Plukenet t. 245. f. 6.

Mr. Nuttall, who has revived or established this species, remarks that it is perfectly distinct from the H. simplex of Michaux, as the latter produces oblong ovate leaves, partly connate at the base, and always pressed close to the stem, and the whole plant instead of being pilose, is covered with a short matted and somewhat scabrous pubescence. (Nutt. loc. cit.) I doubt, however, whether Walter did not mean by his H. pilosum the H. simplex of Michaux, as he mentions the appressed leaves as a part of its character, or, perhaps, as has heretofore been done, he confounded both under that name; if however I have not mistaken this plant, I must add

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that the pubescence differs in quantity, rather than in its properties; in both it is tomentose, but this is comparatively naked.

Grows in wet Pine barrens, 8 miles from Charleston.
Flowers June—September.

5. Simplex.

H. erectum, lanulosum; caule virgato, simplici, tereti; foliis ovato-lanceolatis, arcte sessilibus, adpressis; panicula terminali pauciflora.	**Erect, woolly; stem virgate, simple, terete; leaves ovate-lanceolate, closely sessile, appressed; panicle, terminal, few flowered.**

Mich. 2. p. 80. Pursh, 2. p. 379. Nuttall 2. p. 16.
Plukenet. Amalth. p. 120. tab. 421. fig. 3.

Stem 1—2 feet high, covered with a jointed tomentum. *Leaves* acute, dotted, and somewhat amplexicaule. *Panicle* small. *Flowers* alternate, and in the division of the stem. *Leaflets* of the calyx unequal, 2 narrower than the rest. *Petals* yellow, oblong, longer than the calyx. *Stamens* shorter than the corolla. *Styles* 3. *Capsule* 1 celled, 3 valved.

Grows in wet Pine barrens.
Flowers June—September.

6. Acutifolium. E.

H. caule herbaceo? subramoso, glabro; foliis angusto lanceolatis acutis; panicula multiflora; capsulis vix calyce longioribus.	**Stem herbaceous? branching, glabrous; leaves narrow lanceolate, acute; panicle many flowered; capsules scarcely longer than the calyx.**

Stem herbaceous? branching, slightly angled. *Leaves* sessile, 10—14 lines long, tapering at the base. *Panicle* many flowered, flowers alternate and in the division of the stem, on pedicels 1—2 lines long. Leaves of the *calyx* equal. *Petals* yellow, nearly lanceolate, twice as long as the calyx. *Stamens* numerous, longer than the calyx. *Styles* 3, united.—*Capsule* 1 celled, 3 valved.

This plant which was sent to me from Milledgeville in Georgia by Dr. Boykin, differs considerably from any species in my herbarium. It resembles most the H. Canadense, but differs in size, being in every respect larger, so as to make it doubtful whether it is really an herbaceous species, it differs also in its acute leaves, in the capsule, which is proportionally short, and in a panicle which is much more compact.

Flowers.

7. MACULATUM. Walt.

H. erectum, glabrum, nigro punctatum; foliis cordato ovatis, ovalibusque, arcte sessilibus; paniculis terminalibus, densifloris, subcorymbosis.	Erect, glabrous dotted with black; leaves cordate-ovate and oval, sessile; panicles terminal; closely flowered, somewhat corymbose.

Walt. p. 189. Mich. 2. p. 80.

H. corymbosum. Sp. pl. 3. p. 1457. Pursh. 2. p. 377.

Stem about 2 feet high, terete, and with every part of the plant, except the filaments and styles, spotted with black dots. *Leaves* sometimes acute, sitting so closely as to embrace the stem. *Flowers* in a compound compact and somewhat pyramidal pamicle. Leaves of the *calyx* united and tubular at base, the segments equal. *Petals* obovate, twice as long as the calyx. *Filaments* numerous, a little shorter than the corolla. *Styles* 3, longer than the stamens. *Stigmas* obtuse, purple. *Capsule* 3 celled, 3 valved.

Grows in dry pine barrens.

Flowers May, August.

The species of this section it has been proposed by Mr. Rafinesque and others, to separate from this genus, and to unite with the Sarothra, as they differ from the shrubby Hypericum's in their habit, and by their 1 celled capsule. It is probable however that the germs of these species are naturally 3 celled, but the partitions being very delicate are effaced by age. In the H. maculatum these partitions are at all times distinctly visible.

** *Fruticosa, trigyna.*	** *Shrubby, trigynous.*

8. ASPALATHOIDES.

H. floribus trigynis, solitariis, alaribus; stylis coadunatis; foliis fasciculatis linearibus, acutis, striatis; caule fruticoso, dichotomo. Willd.	Flowers trigynous, solitary, winged; styles united; leaves clustered, linear, acute, striate; stem frutescent dichotomous.

Sp Pl. 3. p. 1451. Pursh. 2. p. 376.

Stem shrubby, dichotomous at the summit. *Flowers* solitary, yellow, nearly sessile in the division of the branches. La Marck. encycl. 4. p. 153.

Grows in Carolina. La Marck.

Flowers

9. GALIOIDES.

H. floribus trigynis, paniculatis, terminalibus; stylis coadunatis; foliis linearibus, sessilibus, margine revolutis; caule suffruticoso. Willd.

Flowers trigynous; panicles terminal; styles united; leaves linear, sessile, with their margins revolute; stem somewhat shrubby.

Sp. Pl. 3. p. 1451. Pursh. 2. p. 376.

Stem about 2 feet high. *Branches* four angled. *Leaves* fasciculate. *Panicles* terminal. *Petals* and *Stamens* equal and scarcely longer than the linear calyx. Pursh.

Does this really differ from the next species?

Grows in sandy moist places.

Flowers July—September.

10. FASCICULATUM. Mich.

H. ramulis tetragonis, foliis confertis quasi verticillatim fasciculatis, filiformi-linearibus, obtusis, sessilibus; pedunculis in apice ramulorum axillaribus, 1–3 floris; calycibus filiformibus, stylis coadunatis.

Branches 4-angled; leaves crowded as if in verticillate clusters, filiform, linear, obtuse, sessile; peduncles near the summit of the branches, axillary, 1–3 flowered; calyx filiform; styles united.

Mich. 1. p. 80.
H. coris. Walt. p. 190.
H. tenuifolium. Pursh. 2. p. 377.

Stem shrubby 1—2 feet high, with the whole plant glabrous. *Leaves* thick, dotted. *Flowers* axillary, opposite; sometimes the peduncles become triflorous with the intermediate flowers sessile. *Leaves* of the *calyx* exactly resembling the leaves of the plant. *Stamens* rather longer than the corolla, both much longer than the calyx. *Petals* yellow, oblong, oval. *Styles* 3, firmly united. *Capsules* 3 celled, 3 valved.

Grows in wet pine barrens.
Flowers June—August.

11. Rosmarinifolium ?

H. ramulis teretibus; foliis lineari-lanceolatis, acutis, basi attenuatis, subfasciculatis; panicula elongata; pedunculis in apice ramorum axillaribus, trifloris; stylis coadunatis.	**Branches terete; leaves linear-lanceolate, acute, tapering at base, somewhat clustered; panicle long; peduncles near the summit of the branches, axillary, 3-flowered; styles united.**

Sp. pl. 3. p. 1450?
H. fasciculatum. Sp. pl. 3. p. 1452. Pursh. 2. p. 376.

Stem shrubby, 2—3 feet high, with its numerous branches terete, smooth, and generally coloured. *Leaves* shining, and as in most of the species, with the margins revolute, and the surface sprinkled with pellucid dots. *Panicle* very ornamental from the number of its flowers on its compoundly trichotomous branches. *Calyx* with its segments like the leaves, linear-lanceolate. *Corolla* yellow. *Petals* obovate, larger than the calyx. *Filaments* numerous, much shorter than the corolla. *Styles* 3, at first united, expanding after the flower decays. *Capsule* 3 celled, with the angles rounded.

I have found some difficulty in determining this plant. It is evidently the H. fasciculatum of Willdenow, but Willdenow has certainly mistaken the H. fasciculatum of Michaux, which he had probably already described as the H. galioides. This plant was considered by Dr. Muhlenberg as the H. rosmarinifolium of La Marck, and as the name is peculiarly appropriate, I have retained it.

It has always appeared to me remarkable that this, which in the low country of Carolina and Georgia, is the most common of our frutescent species, should have been overlooked by both Walter and Michaux.

Grows in damp soils.
Flowers June—August.

12. Ambiguum. E.

H. ramulis ancipitibus, foliis lineari-lanceolatis, acutis, mucronatis; floribus axillaribus terminalibusque; calycis foliolis inæqualibus, lineari-lanceolatis, corollam subæquantibus; petalis inapice unidentatis; stylis 3, coadunatis.

Branches compressed; leaves linear-lanceolate, acute, mucronate; flowers axillary and terminal; leaves of the calyx unequal, linear lanceolate, as long as the corolla; petals toothed near the summit; styles 3, united.

Shrub 2—4 feet high with a scaly bark, and with its numerous opposite branches strongly compressed. *Leaves* tapering at base almost to a petiole, with the point nearly white. *Flowers* towards the summit of the branches, commonly 5—7 on each branch. *Petals* obliquely obovate, a little longer than the stamens, with a tooth or angle near the summit. *Styles* as usual, separating as the capsule matures. *Capsule* 3 celled.

In the shape and size of the leaf this plant strongly resembles the H. rosmarinifolium, it differs from it however widely in many respects; to the H. Kalmianum it has a much closer affinity, but its flowers are not at all corymbose, and I have found them invariably trigynous.

Grows near Columbia.
Flowers May—June.

13. Prolificum.

H. ramis ancipitibus; foliis angusto-lanceolatis, subacutis; panicula pauciflora; ramulis dichotomis; petalis staminibus paulo longioribus; stylis coadunatis.

Branches compressed; leaves narrow, lanceolate, somewhat acute; panicle few flowered; branches dichotomous; petals a little longer than the stamens; styles united.

Sp. pl. 3. p. 1453. Pursh, 2. p. 375.

Shrub 2—3 feet high. *Branches* very much compressed. *Leaves* lanceolate, rather narrow, generally acute, about 2 inches long. *Peduncles* near the summit of the branches axillary, opposite, generally 3 flowered, the intermediate flower almost sessile, the others on peduncles nearly an inch long. *Calyx* leaflike, segments lanceolate, acute. *Corolla* and *Styles* rather longer than the stamens.

Grows near Columbia, South-Carolina.

Flowers June—August.

14. Amoenum. Pursh.

H. diffusum; ramis ancipitibus; foliis ovalibus, subtus glaucis; floribus axillaribus, subsolitariis; calycis foliolis ovatis, acutis; petalis deflexis, staminibus longioribus.	Diffuse, with branches compressed; leaves oval, glaucous underneath; flowers axillary, in general solitary; leaves of the calyx ovate, acute; petals deflected; longer than the stamens.

Pursh. 2. p. 374.

A small shrub rarely exceeding 2 feet in height, but very much diffused and divided. *Leaves* rather large, somewhat attenuated at base, with the margins slightly undulate. *Flowers* much larger than those of any other of our species, solitary, generally opposite, on short peduncles. *Stamens* very numerous, forming a ball in the centre of the flower, and apparently depressing the petals by their number. *Styles* 3, at first united, separating as the fruit matures.

This elegant species has not been found to the north of the Oakmulgee river in Georgia.

Grows abundantly on the Flint river.

Flowers June—August.

15. Fastigiatum. E.

H. ramulis paulo-compressis; foliis angusto-lanceolatis, acutissimis; corymbis terminalibus, multifloris, fastigiatis; stylis coadunatis. E.	Branches somewhat compressed; leaves narrow-lanceolate, very acute; corymbs terminal, many flowered, fastigiate; styles united.

A shrub about 3 feet high. *Leaves* about 3 inches long, tapering yet connate at base, dotted, paler on the under surface. *Flowers* very numerous in fastigiate corymbs, with solitary flowers nearly sessile in the lower divisions of the corymb. *Corolla* and *Stamens* generally longer than the calyx. *Styles* firmly united, not separating as the pod matures.

Found in the Pine barrens of Scriven county, Georgia.
Flowers May—July.

16. NUDIFLORUM. Mich.

H. ramis alatis; foliis oblongo-ovatis, obtusis, sessilibus; paniculis terminalibus, nudatis, compositis; corolla calyce longiore; stylis coadunatis.	Branches winged; leaves oblong-ovate obtuse, sessile; panicles terminal, naked, compound; corolla longer than the calyx; styles united.

Sp. Pl. 3. p. 1456. Mich. 2. p. 78. Pursh. 2. p. 375.
H. virginicum? Walt. 189.

Really frutescent, but many of its branches decay every year, and new ones are produced, which give it frequently an herbaceous appearance. *Branches* angled and winged. *Leaves* sometimes lanceolate, dotted, of a pale and somewhat glaucous complexion. *Panicle* compoundly dichotomous, with a flower in each division of the stem on short peduncles. Leaves of the *calyx* lanceolate. *Corolla* obovate, nearly twice as long as the calyx. *Styles* 3, sometimes 4, united, but separated at their summits. *Capsule* 3 celled, coloured.

Grows around the margins of ponds, and in shallow swamps.
Flowers August—September.

17. GLAUCUM?

H. caule tereti; foliis cordato–ovatis semiamplexicaulibus, glaucescentibus; panicula divaricato-dichotoma, foliosa; corolla calycem æquante; stylis coadunatis.	Stem terete; leaves cordate–ovate, half embracing the stem, somewhat glaucous; panicle divaricate, dichotomous, leafy; corolla as long as the calyx; styles united.

Mich. 2. p. 78. Pursh. 2. p. 376.

A small straggling shrub, rarely exceeding 18 inches in height, with a few opposite branches. *Leaves* very smooth, dotted, and somewhat glaucous, particularly on the under surface. *Flowers* in the division of the stem, on peduncles 2—5 lines long. *Leaves* of the calyx ovate and slightly acuminate. *Petals* about as long as the calyx, with a tooth or angle near the summit. *Stamens* very numerous, little shorter than the corolla. *Styles* united at first, separating as the fruit matures.

Grows in ponds about a quarter of a mile to the north of Ogeechee Ferry.

Flowers May—June.

ELODEA. Adanson.

Calyx 5-partitus, æqualis. *Petala* 5, unguibus nectariferis. *Filamenta* 9–15, in 3-phalanges connata. *Glandulæ* inter phalanges. *Styli* 3, divergentes. *Capsula* 3-locularis	*Calyx* 5-parted, equal. *Petals* 5, with nectariferous claws. *Filaments* 9–15, united in three phalanxes, with a *gland* between the phalanxes. *Styles* 3, diverging. *Capsule* 3-celled.

1. Virginica.

E. foliis sessilibus amplexicaulibus cordato oblongis, obtusissimis; pedunculis paucifloris, axillaribus terminalibusque; staminibus 9, levissime basi coalitis.	Leaves sessile, amplexicaule, cordate, oblong, very obtuse; peduncles axillary and terminal, few flowered; stamens 9, slightly united at base.

Nutt. 2. p. 17.
E. campanulata. Pursh. 2. p. 379.
Hypericum virginicum. Sp. pl. 3. p. 1455. Mich. 2. p. 81.
Hypericum campanulatum. Walt. 191.

Root perennial. *Stem* herbaceous, about 2 feet high, terete, glabrous, with opposite branches. *Leaves* opposite, with pellucid dots, glaucous underneath. *Peduncles* axillary, triflorous, with the middle flower sessile; the terminal peduncle compound, naked, forming a small panicle of 9 or more flowers, common peduncle about an inch long. *Segments* of the calyx oval, seven nerved, glabrous, not dotted. *Petals* oval, twice as long as the calyx, dotted, of an obscurely red color. *Stamens* generally 9, as long as the corolla, united at base into 3 phalanxes, an ovate orange colored gland between the phalanxes. *Styles* 3, separate, as long as the stamens. *Capsule* 3 celled.

Grows in wet soils and ditches and around ponds.
Flowers August and September.

2. Tubulosa. Walt.

E. floribus trigynis; corollis tubulosis; staminum corporibus plusquam ad medium connatis; foliis sessilibus.	**Flowers trigynous; corolla tubular; stamens united above the middle; leaves sessile.**

Pursh, 2. p. 379. Nutt. 2. p. 17.
Hypericum tubulosum. Walt. p. 191.

This plant still rests on the authority of Walter. It is one of the very few of his species which has not been identified.

Grows
Flowers

3. Petiolata. Walt.

E. foliis petiolatis oblongo-ovalibus, obtusis; floribus oppositis, axillaribus, subsessilibus, subternis; staminibus ad medium usque connatis, capsulis oblongis.	**Leaves on petioles, oblong-oval, obtuse; flowers opposite, axillary, nearly sessile, generally by threes; stamens united to the middle; capsule oblong.**

Pursh. 2. p. 379. Nuttall. 2. p. 17.
Hypericum petiolatum. Wal. 191.
Hypericum axillare. Mich. 2. p. 81.

Root perennial. *Stem* herbaceous, about 2 feet high, glabrous. *Leaves* opposite, emarginate, tapering at base, dotted, and somewhat glaucous underneath, petioles about half an inch long. Common *peduncle* 3—4 lines long, generally 3 flowered. *Segments* of the calyx oval, obtuse, nerved, with the margins membranaceous. *Petals* lanceolate, nearly acute, of a dull red colour and a little longer than the calyx. *Filaments* 9, united almost to the summit in 3 phalanxes. *Capsule* 3 celled.

Grows in ditches and around ponds.
Flowers August and September.

While in compliance with the practice of modern botanists, I have removed the 3 last genera from Polyadelphia to Polyandria, it has at least led to a very anomalous insertion of this genus; for while the Hypericums of North America appear to be really polyandrous, and without the distinct features which belong to the class Polyadelphia, the genus Elodea is distinctly Polyadelphous, and is not Polyandrous. By a student of Botany, it certainly would never be sought for in this class. Its species are the most truly enneandrous plants that I have ever met with.

POLYGYNIA.

ILLICIUM. Gen. Pl, 940.

Calyx 6-phyllus. *Petala* 27 (interdum 6—9, Nuttall.) *Capsulæ* plures, in orbem digestæ, 2-valves, 1-spermæ.	*Calyx* 6-leaved. *Petals* 27 (sometimes 6—9. Nutt.) *Capsules* numerous, collected into a circle, 2-valved, 1-seeded.

1. Parviflorum.

I. foliis alternis, lanceolatis, integerrimis glaberrimisque, coriaceis, perennantibus; floribus pusillis, cernuis; petalis calyceque rotundatis, concavis.	Leaves alternate, lanceolate, entire and glabrous, coriaceous, perennial; flowers small, nodding; petals and leaves of the calyx round, concave.

Mich. 1. p. 326. Pursh, 2, p. 380

A handsome shrub, growing sometimes 6—10 feet high, remarkable for its bright, smooth, perennial leaves. *Leaves* on short petioles, rather acute than obtuse, but never acuminate. *Flowers* small, axillary, generally cernuous, on peduncles scarcely 1-2 an inch long. *Petals* dull yellow, generally 6—8 but I believe not definite in their number. *Stamens* short. *Germ* superior. *Capsules* very handsomely arranged in a circle around a central receptacle.

This plant, originally, I believe, from the banks of St. John's, East-Florida, is now common in our gardens, and is almost naturalized.

Flowers May—June.

MAGNOLIA. GEN. PL. 942.

Calyx 3-phyllus. *Petala* 6—9. *Capsulæ* 2-valves, 1-spermæ, in strobilum imbricatæ. *Semina* pendula.	*Calyx* 3-leaved. *Petals* 6—9. *Capsules* 2-valved, 1-seeded, imbricated, forming an ovate strobilus. *Seeds* pendulous.

1. GRANDIFLORA.

M. foliis perennantibus, ovali-lanceolatis, crassis, coriaceis, subtus ferrugineis; petalis dilatato-obovatis, abrupte in unguem angustatis.	Leaves perennial, oval lanceolate, thick, coriaceous, ferruginous underneath; petals obovate, abruptly contracted into a claw.

Sp. pl. 2. p. 1255. Walt. p. 158. Mich. 1. p. 326. Pursh, 2. p. 380. Mich. Arb. 3. p. 71.

This magnificent tree is almost too well known to need description. It rises sometimes 60, 70, or 80 feet in height, with a naked smooth columnar stem, and the head when not injured by accident is always regularly pyramidal, or semi elliptical. From May to August in favorable situations it is almost always covered with its brilliant white flowers, terminating the young branches. The petals are large, oval, or obovate, abruptly narrowed at base; concave, coriaceous, of a brilliant white, but becoming instantly ferruginous, when scratched or bruised. Letters can easily be written on them with the point of any sharp instrument. *Stamens* very numerous, imbricate, much shorter than the corolla. *Germs* superior aggregated on an oblong, ovate receptacle. *Style* short, recurved. *Capsules* sitting on the receptacle, imbricated, splitting longitudinally.

Seeds 1 or 2 in each capsule, covered with a scarlet pulp, hanging for a few days after they quit the capsule by a thread attached to their base.

Grows in rich, light soils, very common all along the sea coast of Georgia and Carolina; rarely found in Carolina more than 40 miles from the sea coast—in Georgia it extends higher up the country being found in the neighbourhood of Milledgeville, and in the Alabama I saw it growing plentifully as high up as Fort Jackson.

Flowers May—August.

2. GLAUCA.

M. foliis ovali lanceolatis, subtus glaucis; petalis obovatis, basi attenuatis.	**Leaves oval lanceolate, glaucous underneath; petals obovate, tapering at base.**

Sp. pl. 2. p. 1256. Walt. p. 158. Mich. 1. p. 327. Mich. arb. 3. p. 77.

A shrub frequently becoming a small tree, remarkable for its white or somewhat glaucous bark. *Leaves* alternate, on petioles about an inch long, acute, shining, and when young pubescent, underneath glaucous, pubescence when young having a silken lustre. *Flowers* solitary, terminal. Leaves of the *calyx* oval, glabrous, membranaceous, sprinkled with pellucid dots, as long as the corolla. *Petals* generally 9, obovate, white, as long as the receptacle. *Filaments* very numerous, compressed, with the point acuminate and extending beyond the anthers. *Anthers* attached to the inner side of the filaments.

This is probably the most fragrant plant in our forests. It grows in great profusion along the margin of the rich swamps which border our rivers, and in the morning and evening during the period of its flowering, the atmosphere of our streams is often literally perfumed with its fragrance.

We have a variety with perennial leaves which sometimes becomes a tree 50—60 feet high. I have been able to discover no other distinction between these two plants than this difference of habit.

Grows in swamps and wet soils, though extremely abundant in the low country of Carolina—it is very rarely found upon the islands which border the sea coasts.

Flowers April—May.

3. ACUMINATA.

M. foliis ovalibus, acuminatis, subtus pubescentibus; petalis obovatis, obtusiusculis.	**Leaves oval, acuminate, pubescent underneath; petals obo vate, rather obtuse.**

Sp. Pl. 2. p. 1257. Walt. p. 159. Mich. 1. p. 329. Pursh. 2. p. 381. Mich. Arb. 3. p. 82.

A tree which in favourable soils and situations, particularly in the fertile vallies among the mountains of Tennessee, grows 70 feet high, with a trunk 2—3 feet in diameter. *Leaves* oval, sometimes broad and lanceolate, acuminate, soft and pubescent underneath. *Petals* oval or obovate, of a dull yellow colour tinged with blue. *Fruit* cylindrical 2—3 inches long.

Grows in the upper and mountainous districts of Carolina and Georgia, not found along the sea-coasts.
Flowers June—July. *Cucumber Tree.*

4. TRIPETALA.

M. foliis amplis, cuneato lanceolatis, junioribus holosericeis; petalis 9, ovali lanceolatis, acutis, exterioribus reflexis.

Leaves large, cuneate-lanceolate, acute, when young silky; petals 9, oval-lanceolate, acute, the exterior ones reflected.

Sp. Pl. 2. p. 1258. Walt. p. 159. Mich. 1. p. 327. Pursh. 2. p. 381. Mich. Arb. 3. p. 90.

A tree which sometimes attains the height of 30—35 feet, though generally smaller, and contrary to the usual habit of this genus, remarkable for the irregular direction and growth of its branches. Its *leaves* are very large 15—20 inches long, and 6—8 wide, gradually tapering at base and slightly acuminate at the summit, alternate but crowded near the extremity of the branches. *Petals* oblong lanceolate, white, about 3 inches long. *Cone* oval or obovate.

Grows in every part of the Southern States in very rich soils, though rare along the sea-coast, and very rare upon the islands.
Flowers May—June. *Umbrella Tree.*

5. CORDATA.

M. foliis lato-ovali vel ovato-lanceolatis, basi subcordatis, subtus subtomentosis; petalis oblongo lanceolatis, acutis.

Leaves broad, oval or ovate-lanceolate, at base slightly cordate, somewhat tomentose underneath; petals oblong lanceolate, acute.

Mich. 1. p. 328. Pursh. 2. p. 382. Mich. Arb. 3. p. 87.

A tree which is said by Michaux. to grow sometimes to the height of 40 or 50 feet, though generally about 24—40, *Leaves* 4—6 inches long, 3—5 wide, sometimes nearly round, and in general very slightly cordate at base. Leaves of the *calyx* small. *Petals* oblong-lanceolate, yellowish, faintly streaked with red. *Cones* cylindric, about 3 inches long.

Grows in the upper districts of Carolina and Georgia, more common around Augusta, than in any other part of the country with which I am acquainted.
Flowers April—May.

6. AURICULATA.

M. foliis obovato-lanceolatis, acutis, utrinque viridibus, basi cordatis, auriculatis; petalis lanceolatis.	Leaves obovate-lanceolate, acute, green on each surface, cordate and auriculate at base; petals lanceolate.

Sp, Pl. 2. p. 1158. Mich. 1. p. 328. Pursh. 2. p. 382. Mich. arb. 3. p. 94.
M. Fraseri Walt. 159.
M. pyramidata? Bartram.

A tree 30—40 feet high, with a stem about 1 in diameter. *Leaves* large, 8—12 inches long, 4—6 wide, very acute, glabrous, in none of my specimens glaucous underneath, tapering to the base and cordate with rounded lobes. *Petals* lanceolate, 2—3 inches long, white, fragrant.

Grows among the mountains of Carolina and Georgia, but said by Michaux, to have been seen at the Sisters-ferry, 35 miles above Savannah on Savannah-river.
Flowers April—May.

I have inserted the M. Pyramidata of Bartram, which has eluded the researches of recent botanists, as a variety of the M. auriculata, yet it must be remarked, that the specimens I possess of the M. pyramidata, are distinguished by leaves much shorter and proportionally wider, and the sinus at the base is more abrupt and angular. Its habitat too may excite some suspicion of a difference in the species. This plant was discovered by Bartram along the sea coast of East Florida. Mr. Kin of Philadelphia assures me he found it on the south bank of the Altamaha nearly opposite to Darien, while Michaux the younger remarks that the M. auriculata is so exclusively confined to the mountains, that excepting the plant he discovered at the Sisters' Ferry, he had never met with it between the mountains and the ocean. May not this low country plant of Michaux really belong to the pyramidata of Bartram?

7. MACROPHYLLA.

M. foliis amplissimis, oblongo subcuneato-obovatis, basi sinuato subauriculatis, subtus glaucis, petalis 6, ovatis, obtusis.	**Leaves very large, oblong, cuneate, obovate, sinuate and auriculate at base, glaucous underneath; petals 6, ovate, obtuse.**

Mich. 1. p. 327. Mich. arb. 3. p. 99. Pursh, 2. p. 381.

A small tree, but rarely exceeding 30—35 feet in height: The stem and very fragile branches covered with a white bark. The *leaves* alternate, and crowded near the summit of the branches, exceed in magnitude those of any other of our plants, they have been found 35 inches long, and 9—10 inches wide. They are acute at the summit; tapering and cordate, but scarcely auriculate at base, glaucous underneath, and when young clothed with a silvery silken pubescence. *Petals* 4—5 inches long, ovate, white, tinged with purple at the base, fragrant. *Cone* oval.

To complete the view of this interesting genus, I have inserted this species although it has never yet been found within the limits strictly assigned to this work, yet, in Lincoln county, North-Carolina, it approaches so near the frontiers of this State, that it would be a matter of some surprise if it should not yet be discovered along the southern declivities of the Saluda Mountains.

Grows 10 or 12 miles to the South-east of Lincoln Court-house, North-Carolina, and in Tennessee.

Flowers May to July.

LIRIODENDRON. GEN. PL.

Calyx 3-phyllus. Petala 6. Samarae imbricatae in strobilum. Capsula 1—2 spermae, non dehiscentes.	**Calyx 3-leaved. Petals 6. Capsules (Samaræ) imbricated, forming a strobilus, 1—2 seeded, not opening.**

1. TULIPIFERA.

L. foliis abscisso-truncatis, 4-lobatis, calyce triphyllo.	**Leaves truncated, præmorse, 4-lobed; calyx three leaved.**

Sp. plantarum. 2. p. 1254. Walter 158. Mich. 1. p. 326. Mich. Arb. 3. p. 302. Pursh. 2. p. 382.

This is one of the largest trees of the American forests. In the low country of Carolina and Georgia, it is somewhat rare, and seldom exceeds 3 feet in diameter, but in the fertile soils of the western country in Kentucky, Tennessee and Alabama, it is sometimes found 7 to 9; and 120 to 140 feet in height. The wood of this tree though soft is durable. The *leaves* are alternate, 3 lobed, with the middle lobe truncate, and varying with the angles of the lobe obtuse, acute, and accuminate, glabrous, on petioles 2 to 3 inches long. *Flowers* solitary, terminal. Leaves of the *calyx* concave. *Petals* obovate, lanceolate, of a dull yellow colour tinged with red. *Stamens* numerous, disposed in a simple series shorter than the petals. *Germs* numerous on a conical receptacle.

Grows in most fertile soils.

Flowers May—June.

ASIMINA. ADANSON.

Calyx 3-phyllus. *Petala* 6, interiora minora. *Stigmata* sessilia obtusa. *Baccæ* plures aut abortione subsolitariæ. *Semina* plurima, unica? serie disposita.	*Calyx* 3-leaved. *Petals* 6, the interior small. *Stigmas* sessile, obtuse. *Berries?* many, or by abortion solitary. *Seeds* numerous, arranged in a single? series.

1. PARVIFLORA.

A. foliis cuneato-obovatis, mucronatis, subtus ramulisque rufo-pubescentibus; petalis exterioribus calyce vix duplo longioribus.	Leaves cuneate-obovate, mucronate, underneath and with the branches covered with a rufous pubescence; exterior petals scarcely twice as long as the calyx.

Decandolle 1. p. 478. Porcelia parviflora, Pursh, 2. p. 383.
Orchidocarpum parviflorum. Mich. Amer. 1. p. 329.

A small shrub rarely exceeding 2 feet in height, with a few branches near the summit. The young branches clothed with a velvet like, ferruginous pubescence. *Leaves* alternate, obovate, abruptly acute and slightly acuminate, a little hairy on the upper surface, pubescent underneath, on very short petioles. *Flowers* solitary, nearly sessile. *Calyx* very pubescent, deciduous. *Corolla* greenish purple, the 3 exterior petals twice as long as the calyx, the 3 interior as long as the calyx, all ovate, nearly acute, pubescent. *Stamens* shorter than the corolla. *Fruit* about an inch and a half long, irregularly oval, rarely ripening.

The species of this genus are all remarkable for the strength of their bark and for the foetid odour which it diffuses when bruised.

Grows in sandy pastures along the sea coast of Carolina and Georgia.
Flowers April—May.

2. TRILOBA.

A. foliis glabrius-culis oblonge cuneato-obovatis; petalis exterioribus calyce quadruplo longioribus, subrotundo-ovatis.	Leaves glabrous, long,cuneate-obovate; exterior petals four-times as long as the calyx, nearly round.

De Candolle 1. p. 479.
Anona triloba sp. pl. 2. p. 1267. Walt. 158. Mich. Arb. 3. p. 161.
Orchidocarpun arietinum Mich. 1. p. 329.
Porcelia triloba Pursh. 2. p. 383.

A small tree generally 15—20 feet high. *Branches* alternate, slender, nearly glabrous. *Leaves* alternate on very short petioles, obovate, cuneate, acuminate, entire, glabrous and shining on the upper surface, slightly pubescent underneath. *Flowers* solitary, on short peduncles, shooting from the bud of the preceeding year. *Corolla* much larger than the calyx, brownish purple, the exterior petals larger, nearly round. *Stamens* much shorter than the corolla. *Germs* numerous, rarely more than 1 or 2 fertile. *Fruit* 2—3 inches long, pulpy, eatable, though insipidly sweet. *Seeds* 6—8.

Grows in rich soils, along the margin of creeks and rivers in the middle and upper country, descending along the large streams to the head of tide water; Beck's ferry on Savannah river.
Flowers March—April.

3. GRANDIFLORA.

A. foliis cuneato-obovatis, obtusis, subtus ramulisque rufo-pubescentibus; petalis exterioribus obovatis,	Leaves cuneate, obovate, obtuse, the under surface and branches cloathed with a rufous pubescence;

calyce multoties amplioribus.	exterior petals obovate, much larger than the calyx.

De Cand 1. p. 480.
Anona obovata. Sp. pl. 2. p. 1269.
Anona grandiflora, Bartram trav. tab. 2.
Orchidocarpum grandiflorum. Mich. 1. p. 330.
Porcelia grandiflora. Pursh, 2. p. 383.

A shrub rarely exceeding 18 or 24 inches in height, sometimes very much branched, with creeping? roots. The young leaves, branches, and calyx soft, flexible, tomentose, ferruginous. *Flowers* few, scattered along the stem on short peduncles, shooting with the young branches from the bud of the last year, very large for the size of the plant, the exterior petals obovate or nearly round, the interior smaller, oblong, all yellowish white. The fruit I have not seen.

Not found I believe to the North of the Altamaha. Very common in the dry pine barrens between that river and the Satilla.

Flowers March—April.

4. PYGMÆA.

A. foliis sublongolinearibus, cuneatis, obtusis, coriaceis, ramulisque glabris; petalis exterioribus calyce multoties majoribus, obovato-oblongis.	Leaves long, linear, cuneate, obtuse, coriaceous and with the branches glabrous; exterior petals much larger than the calyx, obovate, oblong.

De Candolle 1. p. 479.
Anona pygmæa. Bartram p. 21. Sp. pl. 2. p. 1268.
Orchidocarpum pygmeum. Mich. 1. p. 330
Porcelia pygmæa. Pursh, 2. p. 383.

A small shrub 6—18 inches high. *Leaves* nearly sessile 4—6 inches long, very narrow, reticulate, perennial? *Flowers* solitary, axillary, large, on short peduncles. *Petals* reddish brown, the exterior obovate oblong, the interior elliptic, small.

Grows in the southern frontier of Georgia and in East-Florida.

Flowers March—April.

CLEMATIS. GEN. PL.

Calyx 0. *Petala* 4—6. *Semina* com-	*Calyx* 0. *Petals* 4—6. *Seeds* compres-

pressa in caudam sæpius barbato-plumosam producta.

sed, generally terminated with a long feathered tail.

1. VIRGINIANA.

C. scandens; foliis ternatis, foliolis ovatis subcordatis, inciso-dentatis lobatisque; floribus paniculatis, dioicis.

Climbing; leaves ternate, leaflets ovate, somewhat cordate, notched, toothed and lobed; flowers in panicles, dioecious.

Sp. pl. 2. p. 1290. Walt. p. 157. Mich. 1. p. 318. Pursh, 2. p. 385. De Candolle 1. p. 142.

Plant climbing over shrubs and sometimes covering with its foliage and flowers small trees 15—20 feet high *Stem* terete, glabrous, pubescent when young. *Leaves* opposite, leaflets acute and acuminate, with the veins and margins pubescent. *Corymbs* or panicles, axillary, opposite, somewhat trichotomously compound, with two small leaflets at each division. *Petals* 4, oval, pubescent, white, fragrant. *Germs* in the male, and *stamens* in the female flowers abortive. *Seed* small, the tail clothed with silken hair.

Grows in fertile soils.

Flowers in August.

2. CATESBEYANA. Pursh.

C. floribus paniculatis, subdioicis; foliis biternatim sectis; segmentis subcordatis, trilobis.

Flowers paniculate somewhat dioecious; leaves divided, biternate, segments slightly acuminate and 3-lobed.

Pursh, 2. p. 736. De Candolle 1. p. 142.

Similar to the preceeding species; scandent, pubescent. *Leaves* doubly ternate, the segments slightly cordate, 3 lobed, lobes entire, acuminate with the nerves underneath pubescent. *Panicle* divaricate, dichotomous. *Flowers* small, the female florets bearing abortive stamens. *Petals* 4 oblong, downy on the outer surface. *Stamens* shorter than the petals. *Styles* bearded. De Cand.

Grows in South-Carolina. Catesbey—Pursh.

Flowers.

3. **Holosericea.** Pursh.

C. scandens, foliis ternatim sectis, segmentis oblongo-lanceolatis, integris, utrinque pubescentibus; floribus paniculato-corymbosis, dioicis, petalis linearibus staminibus longioribus.	Climbing; leaves divided, ternate, segments oblong-lanceolate, entire, pubescent on both surfaces; flowers in a paniculate corymb, dioecious; petals linear, longer than the stamens.

Pursh, 2. p. 384. De Candolle 1. p. 145.

The whole plant silky. *Corymbs* trichotomous, few flowered. *Flowers* small, white. Tails of the *seed* long, feathered.

Described by Pursh from the herbarium of Walter.

Grows in Carolina.

Flowers.

4. **Leneariloba.** De Candolle.

C. pedunculis unifloris, petalis acutissimis; foliis pinnatim sectis, glabris, segmentis integris aut tripartitis, lobis linearibus. De Cand.	Peduncles one flowered; petals very acute; leaves divided, pinnate, glabrous, with the segments entire or 3-parted.

Stem terete, slender, glabrous. *Leaves* glabrous, segments 3—4 pair, the lower ones tripartite, others undivided, lobes all linear, entire, acute, more than an inch long, scarcely 2 lines wide. *Petioles* tortuous resembling cirrhi. *Peduncles* terminal, solitary, 1-flowered, shorter than the leaves. *Petals* nearly an inch long, acute, externally glabrous, pubescent along the margins, nearly twice as long as the stamens. De Cand.

Described from specimens collected by Fraser in the low country of Carolina.

Flowers.

5. **Walteri.** Pursh.

C. scandens; foliis pinnatim sectis, triju-	Climbing; leaves divided, pinnate, leaf-

gis, foliolis divaricatis, petiolatis, lineari-lanceolatis, acutis, integerrimis, subtus glaucis; floribus solitariis, petalis ellipticis, staminibus duplo longioribus.

lets in 3 pair, divaricate, petiolate, linear lanceolate, acute, very entire, glaucous underneath; flowers solitary; petals elliptic, twice as long as the stamens.

Pursh, p. 384. De Candolle 1. p. 155.

Leaves terminating with tendrils. *Flowers* white.

Described by Pursh from specimens in the Herbarium of Walter.
Grows in Carolina. Pursh.
Flowers.

6. VIORNA.

C. scandens; foliis glabris, pinnatim sectis, segmentis ovali-lanceolatis, utrinque acutis, trifidis integerrimisque; floribus solitariis, campanulatis; petalis crassis, acuminatis.

Climbing; leaves glabrous, divided, pinnate, segments oval-lanceolate, acute at each end, 3-cleft and entire; flowers solitary, campanulate; petals thick, acuminate.

Sp. pl. 2. p. 1288. Walt. p. 156. Mich 1. p. 318. Pursh. 2. 385. De Candolle 1. p. 156.

Stem pubescent, leaflets broad, lanceolate, acute, sometimes notched but generally entire, pubescent particularly along the margins and veins of the under surface. *Peduncles* solitary, axillary and terminal, sometimes 3-flowered De Cand. *Petals* coriaceous, rugose, purple, pubescent along the margins, with the summits acute, reflected, not dilated as in C. Crispa. *Stamens* nearly as long as the tube of the corolla. Tails of the *seeds* long, plumose.

Grows in the middle and upper District of Carolina and Georgia.
Flowers May—August.

7. Cylindrica.

C. scandens; foliis pinnatim decompositis, segmentis ovatis, utrinque acutis, glabris, simplicibus, pedicellatis; pedunculis terminalibus, solitariis; corollis cernuis, cylindricis, petalis subcoriaceis, undulatis; aristis seminum plumosis.

Climbing; leaves pinnate, decompound, segments ovate, acute at each end, glabrous, simple, on petioles; peduncles terminal, solitary; corolla nodding, cylindrical, petals coriaceous, undulate, tails of the seed plumose.

Pursh p. 385. De Candolle 1. p. 156.

Nearly allied to C. Viorna, Reticulata and Crispa. From C. Viorna it differs, in having all the segments of the leaves entire, flowers twice as large, and petals thin with the margins undulate. From C. Reticulata it differs, by its leaves thin and not coriaceous, scarcely veined, not reticulate. From C. Crispa, which it nearly resembles in habit and inflorescence, it differs by a larger flower, by the margin of the corolla undulate, not revolute, and particularly by the long and bearded tails of the seed. De Cand.

Grows in Carolina.
Flowers in the summer.

8. Reticulata. Walt.

C. scandens; foliis coriaceis, reticulatim nervosis, glabris, pinnatim sectis, segmentis ovatis, omnibus integris petiolatisque, membranaceis; floribus solitariis; petalis subcoriaceis; aristis seminum plumosis.

Climbing; leaves coriaceous, reticulately nerved, glabrous, divided, pinnate, segments ovate, all entire and on petioles, membranaceous; flowers solitary; petals coriaceous; tails of the seed plumose.

Walt. p. 156. Mich. 1. p. 318. Pursh p. 385. De Cand. 1. p. 157.

A vine running over small shrubs, glabrous. *Leaves* pinnate, with 3 or 4 pair of leaflets. *Leaflets* ovate, very glabrous, distinctly veined on both surfaces, rigid, coriaceous, sometimes obtuse, but sometimes acute and even mucronate. *Flowers* solitary, terminal, of a dull purple colour, on small branches. Tails of the *seed* long and conspicuously feathered.

Grows in the middle and upper districts of Carolina and Georgia.
Flowers May to August.

9. OCHROLEUCA. Hort. Kew.

C. erecta, simplex, pubescens; foliis simplicibus, calycibusque sericeis; pedunculo terminali, solitario; flore inclinato.

Erect, simple, pubescent; leaves simple ovate, entire, the young leaves and calyx silky; peduncle terminal, solitary; flower leaning.

Sp. Plant. 2. p. 1294. De Candolle 1. p. 159.
C. Sericea Mich. 1. p. 319. Pursh. 2. p. 385.

Root perennial. *Stem* firmly erect, very villous, particularly near the summit. *Leaves* opposite, large, simple, entire, ovate, rather acute, reticulately veined, very pubescent, or villous on the under surface, on very short footstalks. *Flowers* solitary, terminal, yellowish. *Seeds* large, very conspicuously tailed and feathered.

Grows in the upper districts of Carolina and Georgia, Mr. Herbemont; among the Saluda Mountains, Dr. Macbride.
Flowers May—July.

10. OVATA. Pursh.

C. erecta; foliis ovatis, acutis, glabris, utrinque reticulato venosis, infimis subcordatis; pedunculis unifloris; floribus erectis; aristis seminum plumosis.

Erect, leaves ovate, acute, glabrous, reticulate on both surfaces, the lower slightly cordate; peduncles 1-flowered; flowers erect; tails of the seed plumose.

Pursh. 2. p. 736. De Candolle 1. p. 159.

Stem simple. *Leaves* ovate, acute, on short petioles. *Peduncle* terminal, solitary. Tails of the *seed* very long. Pursh.

Described by Pursh, from specimens collected in Carolina by Catesby.

Flowers

11. CRISPA.

C. scandens; foliis pinnatis ternatisque, segmentis divaricatis, ovato-lanceolatis, acutis, trilobis integerrimisve; floribus solitariis; corollis campanulatis; petalis acuminatis, revolutis, margine undulatis; aristis seminum subulatis, nudis.	Climbing; leaves pinnate and ternate; segments divaricate, ovate-lanceolate, acute, 3-lobed or entire; flowers solitary; corolla campanulate; petals acuminate, revolute, with the margins undulate; tails of the seed subulate, naked.

Sp. pl. 2. 1289. Walt. p. 157. Mich. 318. Pursh 2. p. 384. De Candolle 1. p.

Root perennial and somewhat creeping. *Stem* pubescent, climbing over small shrubs. *Branches* opposite, divaricate. *Leaves* glabrous, though sprinkled occasionally with a few hairs. *Flowers* scattered, solitary, on the summit of small branches, campanulate, of a bright purple. *Petals* coriaceous, rugose, towards the summit dilated, then acuminate, the margins undulate. *Stamens* very numerous, shorter than the tube of the corolla. *Anthers* attached to the sides of the filaments. *Germs* very numerous, tomentose. *Styles* longer than the stamens.

Grows in close, damp, rich soils, very common in the river swamps in the low country.

Flowers April—May.

THALICTRUM. GEN. PL.

Calyx 0. *Petala* 4—5. *Stamina* longissima. *Semina* ecaudata, striata.	*Calyx* 0. *Petals* 4—5. *Stamens* very long. *Seeds* without tails, striate.

1. REVOLUTUM. De Cand.

T. floribus dioicis polygamisve; filamen-	Flowers dioecious or polygamous; fila-

tis filiformibus; foliorum segmentis ovatis, subtrilobis, margine subtus revolutis, subtus velutino-pubescentibus. De Cand.

ments filiform; segments of the leaves ovate, generally 3-lobed; with the margins revolute, underneath finely pubescent.

De Candolle 1. p. 173.
T. pubescens. Pursh 2. p. 383.

Stem slender, glabrous, erect. *Leaves* bi or triternate; with the segments ovate, slightly cordate, or cuneate, entire or 3-lobed, with the lobes acute, the margins when dry slightly revolute, somewhat rugose on the upper surface, cloathed on the under with a fine tomentum. *Panicle* terminal, nearly naked, pedicels divaricate, longer than the leaves. *Petals* 4—5, oval. *Anthers* yellow, oblong, mucronate at the summit. De Cand.

Grows in the lower districts of Carolina. Fraser.
Flowers June—August.

2. DIOICUM.

T. floribus dioicis, filamentis filiformibus; foliorum segmentis subrotundis, cordatis, obtuse lobatis, glabris; pedunculis axillaribus, folio brevioribus. De Cand.

Flowers dioecious, filaments filiform; segments of the leaves nearly round, cordate, obtusely lobed, glabrous; peduncles axillary, shorter than the leaves.

Sp. Pl. 2. p. 1296. Pursh 2, p. 388. De Candolle 1. p. 173.
T. Lævigatum Mich. 1. p. 322.

Root perennial. *Stem* herbaceous, 1—2 feet high. *Leaves* generally triternate, very glabrous. *Flowers* sessile, in small axillary clusters or umbels. *Footstalks* of the umbels generally shorter than the leaves, sometimes extending and becoming compound and paniculate. *Corolla* small, white. *Stamens* in this genus generally longer than the corolla. *Seeds* deeply striate.

Grows in the mountains of Carolina. Mich.
Flowers May—July. Pursh.

3. Carolinianum. Bosc.

T. floribus dioicis, filamentis filiformibus; foliorum segmentis ovatis, 3–5 dentatis, glabris, subtus glaucis; pedunculis axillaribus, folio longioribus. De Cand.

Flowers dioecious; filaments filiform; segments of the leaves ovate, 3–5 toothed, glabrous, glaucous underneath; peduncles axillary, longer than the leaves.

De Candolle 1. p. 174.
T. rugosum. Pursh 2. p. 388.

Allied to T. dioicum, but differs in having the segments of the leaves oval, less round, or cordate, and more glaucous underneath, and by its peduncles longer than the leaves, more paniculate and divaricate. *Fruit* ovate, tapering at each end, stipitate, striate, with the ribs acute. De Cand.

Grows in the mountains of Carolina. Bosc.
Flowers

4. Rugosum.

T. caule erecto, tereti, striato; panicula erecta multiplici; floribus confertis; foliorum segmentis ovatis, subcordatis, grosse 3—5 crenatis, subtus glaucis, superne lucidis. De Cand.

Stem erect, terete, striate; panicle erect, much divided; flowers crowded; segments of the leaves ovate, slightly cordate, coarsely crenate, glaucous underneath, shining above.

Sp. pl. 2. p. 1298. Pursh 2. p. 388. De Candolle 1. p. 185.

Root perennial. *Stem* 2 to 5 feet high. *Leaves* compound, with the lobes somewhat acute. *Leaves* shining and deep green on the upper surface. *Flowers* in terminal panicles frequently dioecious. *Corolla* small, white.

Grows in the mountains of Carolina. Pursh.
Flowers June—August.

5. ANEMONOIDES.

T. radice grumosa; floribus umbellatis; foliis floralibus petiolatis, biternatim sectis, involucrum constituentibus.	Root grumous; flowers umbellate; floral leaves on petioles, divided, biternate, forming an involucrum.

Mich. 1. p. 322. De Candolle 1. p. 186.
Anemone thalictroides. Sp. Pl. 2. p. 1284. Pursh. 2. p. 389.

Root tuberous, perennial. *Leaves* all radical on long footsalks. *Scape* 6—12 inches high, terminating in a small umbel surrounded by an involucrum of 6 or 7 pedicellate leaves. *Leaflets* of the involucrum resembling exactly those from the root. *Umbels* 3—6 flowered. *Peduncles* scarcely exceeding an inch in length. *Petals* generally 6, lanceolate, white. *Seeds* deeply striate.

This plant appears to connect the genus Anemone with that of the Thalictrum. It resembles the Anemone in its inflorescence and habit. The Thalictrum in its foliage and seed. Its place in the system, therefore has often been changed. I have followed Michaux and De Candolle in uniting it with the Thalictrum.

Grows in the Mountains of Carolina.
Flowers March—May.

6. RANUNCULINUM.

T. foliis simplicibus, 5 lobis, serratis, floribus corymbosis.	Leaves simple, lobed, serrate; flowers corymbose. Willd.

Willd. Enum, 585. Pursh. 2. p. 389.

I have no knowledge of this plant but from the short notice which Pursh has copied from Willdenow.

Grows in Carolina. Willd.

ANEMONE.

Involucrum trifoliatum, dissectum. *Petala* 5–15. *Semina* plurima.	*Involucrum* 3-leaved, dissected, *Petals* 5–15. *Seeds* numerous.

1. **Caroliniana.** Walt.

A. foliis ternatis, foliolis incisis serratisque; involucro trifoliato, foliolis trifidis; petalis 14 to 20 ovalibus, exterioribus subcoriaceis. E.

Leaves ternate, leaflets notched and serrated; involucrum 3-leaved, leaflets 3-cleft, petals 14–20 oval, the exterior somewhat coriaceous.

Walt. p. 157. De Candolle 1. p. 201.
A tenella? Pursh 2. p. 386.

Root perennial. *Leaves* on petioles 2—3 inches long. *Scape* 1-flowered, slender, 8—16 inches long, covered particularly towards the summit, with a silky down. *Involucrum* near the middle of the scape, the leaflets very regularly 3-cleft. *Petals* oblong, oval, white, the exterior 6—8 thicker and sprinkled with purple specks, the interior 8—14 very thin and delicate. *Filaments* short yellow. *Stigma* hooked. *Seed* sitting on a cylindrical receptacle, covered with a silky down.

This beautiful and fragrant plant, has probably escaped the notice of all our botanists, except Walter, for it is very doubtful whether the A. tenella of Pursh, is the same plant. Its habitat in this country is very limited. The taste is acrid, but fugitive. The petals are persistent, covering the seed, and the scape continues to grow until the seed ripens.

Found hitherto only in one or two places in the oak lands bordering the Santee swamps, near Laneau's ferry.

Flowers generally between the 8—16th of March.

2. **Nemorosa.**

A. foliis ternatis, foliolis cuneatis, inciso-lobatis, dentatis, acutis; caule unifloro; corollis 5–6 petalis; seminibus ovatis, stylo brevi uncinatis.

Leaves ternate, leaflets cuneate, lobed, toothed acute; stem one flowered; corolla 5–6 petalled; seeds ovate, with a short hooked point.

Sp. pl 2. p. 1281. Mich. 1. p. 319. Pursh 2. p. 386. De Candolle 1. p. 203.

Stem about 6—12 inches high, leaves of the *involucrum* on petioles, leaflets lanceolate acute more or less deeply notched. *Peduncle* pubescent near the summit. *Petals* white, tinged with purple.

Grows in the moutains of Carolina.

Flowers March—April.

3. VIRGINIANA.

A. caule dichotomo; foliis ternatis, superioribus oppositis, foliolis inciso lobatis serratisque, acutis; pedunculis solitariis, unifloris, elongatis; seminibus mucronatis, in receptaculo oblongo, lanato, aggregatis.

Stem dichotomous; leaves ternate, the upper opposite, leaflets lobed and serrate, acute; peduncles solitary, one flowered, long; seeds mucronate, collected on an oblong woolly receptacle.

Sp. pl. 2. p. 1279. Walt. p. 157. Mich. 1. p. 320. Pursh, 2. p. 388.

Root tuberous, small. *Stem* herbaceous, simple, pubescent, almost villous, 2—3 feet high, divided; at the first involucrum producing 1—4, 1-flowered peduncles. *Leaves* of the involucrum similar to those of the root, all rugose, hairy. *Petals* generally 5, of an obscure white colour, the two exterior green and pubescent on the outer surface, lanceolate, acute, three interior obovate, obtuse and also pubescent on the outer surface. *Stamens* very numerous, much shorter than the corolla. *Germs* very numerous collected into an oblong ovate capitulum; receptacle woolly. *Seeds* compressed mucronate.

Grows in shaded fertile soils, found within three miles of Charleston. Flowers July—August.

4. WALTERI. Pursh.

A. foliis radicalibus palmatis, longius petiolatis; pedunculo radicali, longo, erecto, unifloro; petalis 5; radice tuberosa.

Root leaves palmate, on long petioles; peduncle from the root, long, erect, one flowered; petals 3; root tuberous.

Pursh 2. p. 387.
Thalictrum Carolinianum. Walter.

Following Pursh and De Candolle, I add this plant of Walter, as probably a species of Anemone, without having it in my power to add any information on the subject, or to ascertain what plant was really described under this name.

HEPATICA. Willd.

Calyx 3-phyllus. *Petala* 6—9, duplici triplicive serie disposita. *Semina* ecaudata.	*Calyx* 3-leaved. *Petals* 6—9, arranged in a double or triple series. *Seeds* without tails.

1. Triloba.

H. foliis cordatis, trilobis, lobis integerrimis.	**Leaves cordate, 3-lobed, lobes entire.**

Pursh. 1. p. 391. De Candolle 1. p. 216.
Anemone Hepatica. Sp. pl. 2. p. 1273. Walt. p. 157. Mich. 1. p. 319.

Root perennial. *Stem* 0. *Leaves* all radical, on petioles 2—3 inches long, nearly glabrous, 3 lobed with the lobes nearly round, cordate at base, thick, coriaceous. *Peduncles* sometimes numerous, shorter than the leaves, covered with silken hair, each 1-flowered, proceeding from sheaths at the crown of the root. *Sheaths* nearly glabrous externally, very villous within. *Calyx* very villous. *Corolla* twice as long as the stamens or calyx, of a beautiful rose or pink colour, sometimes variegated with white.

Grows in rich light soils in the upper districts of Carolina and Georgia.
Flowers February—March.

HYDRASTIS. Gen. Pl.

Calyx 0. *Petala* 3. *Bacca* composita, acinis monospermis.	*Calyx* 0. *Petals* 3. *Berry* compound, with the pulpy grains one seeded.

1. Canadensis.

Sp. pl. 2. p. 1340. Mich. 1. p. 317. Pursh, 2. p. 389. De Candolle 1. p. 218.

Root perennial, yellow. *Stem* herbaceous, alternately 2-leaved. *Leaves* slightly cordate, palmate, the segments acutely serrate, glabrous. *Flowers* solitary, terminal. *Petals* of a pale rose colour. *Stamens* shorter than the petals. *Germs* numerous, aggregated in a convex capitulum, somewhat pulpy, maturing but one seed, though said by Michaux to contain generally when young rudiments of two.

Grows in rich soils in the mountains.
Flowers April—May.

RANUNCULUS. Gen. Pl. 953.

Calyx 5-phyllus. *Petala* 5, intra basin unguiculatum poro mellifero, sæpius squamula obtecto. *Semina* nuda.

Calyx 5-leaved. *Petals* 5, bearing near the base of their claw a melliferous pore generally covered with a scale. *Seeds* naked.

* *Semina (vel pericarpia) transverse rugosa striata; petala alba ungue flava fovea nectarifera notata. Batrachium.*

* *Seeds rugose transversely streaked; petals white, marked with a nectariferous cell in their yellow claws. Batrachium.*

1. Hederaceus.

R. caule repente, foliis subreniformibus sub 3—5 lobis, lobulis latis, integris, obtusissimis; petalis oblongis, calyce vix longioribus; staminibus 5—12; carpellis glabris. De Candolle 1. p. 233.

Stem creeping, leaves nearly reniform, generally 3—5 lobed, lobes broad, entire, very obtuse; petals oblong, scarcely longer than the calyx; stamens 5—12; seeds glabrous.

Sp. pl. 2. p. 1351.

This species, originally a native of Europe, was found by Bosc growing and apparently naturalized around Charleston. If not extinct it has become rare.

Grows in ditches and wet places.

Flowers in the summer.

2. Pantothrix.

R. caule natante; foliis omnibus capilla-

Stem swimming; leaves all capillary,

ceo multifidis; petalis obovatis calyce majoribus, seminibus glabris. DeCandolle 1. p. 235.	many cleft; petals obovate, larger than the calyx; seeds glabrous.

Sp. pl. 2. p. 1333. Pursh, 2. p. 395.

Root perennial. *Stem* flexible, floating, branching. *Leaves* alternate, very finely dissected. *Flowers* on axillary peduncles 1—2 inches long.

Grows in tranquil streams in the upper Districts of Carolina. Pursh. It does not occur in the low country.

Flowers June—August.

** *Floribus luteis; foliis integris dentatisve, radice fibrosa.*	** *Flowers yellow; leaves entire or toothed; root fibrous.*

3. Pusillus. Pursh.

R. glaber; foliis omnibus petiolatis, denticulatis, inferioribus subcordato-ovatis, superioribus lineari-lanceolatis, supremis linearibus; pedunculis oppositifoliis, solitariis, unifloris; petalis calycis longitudine.	Glabrous; leaves all petiolate, denticulate, the lower ovate, slightly cordate, the upper lanceolate, and linear; peduncles opposite the leaves, solitary, one flowered; petals as long as the calyx.

Pursh, 2. p. 392. De Candolle 1. p. 249.
R. flammula? Walt. p. 159.

Root fibrous, perennial? *Stem* herbaceous, generally decumbent, sparingly branched, 6—12 inches high. *Leaves* on petioles (the lower 2—3 inches long) very obtuse and sometimes slightly cordate at base. *Flowers* very small at the summit of the small branches. *Leaves* of the calyx ovate, obtuse, deciduous. *Petals* scarcely larger than the calyx, about 1-line long, nearly round, yellow, the pore near the base of the petal not on the *claw*. *Stamens* 7—8, shorter than the calyx. *Germs* numerouss,aggregated in a hemispherical head. *Styles* 0. *Stigma* sessile, obtuse. *Seeds* ovate, compressed, acute at the summit, slightly rugose.

Grows in wet soils, very common

Flowers February—April.

4. OBLONGIFOLIUS. E.

R. foliis petiolatis, denticulatis, inferioribus oblongo-ovalibus, superioribus lineari lanceolatis; caulibus ramosis; petalis calyce paulo longioribus; seminibus globosis, muticis, lævibus. E.

Leaves petiolate, denticulate, the lower oblong-oval, the upper linear lanceolate; stems branching; petals a little longer than the calyx; seeds globose, not pointed, smooth.

Root fibrous. *Stem* 1—2 feet high, generally erect or declining, glabrous, smooth, branching and from the smallness of the upper leaves appearing naked towards the summit. *Leaves* oblong, irregularly denticulated, glabrous, the lower on petioles 1—3 inches long. *Peduncles* 10—15 lines long. *Calyx* at first closely appressed. *Petals* rather longer thae the calyx. *Seeds* smooth without a vestige of the style, globose, with a slight longitudinal cicatrice.

This species which I propose with hesitation, differs from the preceding much in size, and appears to differ in the corolla and seed. It requires however, to be further examined.

Grows in ditches and wet places. Collected 12 miles from Savannah on the Augusta road. St. John's Berkley. Dr. Macbride.

Flowers May—July.

**** Floribus luteis; foliis incisis multifidisve; radice fibrosa; pericarpiis lævibus.*

**** Flowers yellow; leaves notched or many cleft; root fibrous; seeds smooth.*

5. ABORTIVUS.

R. foliis glabris, radicalibus petiolatis, cordato-orbiculatis, crenatis, nonnullis tripartitis trisectisve, cauli-

Leaves glabrous, those of the root on petioles, cordate, orbicular, crenate, sometimes 3 parted or nis in lobos oblongo-lineares 3-5 partitis; calyce glabro petalis sublongiore.

notched, stem leaves divided into 3–5 long, linear lobes; calyx glabrous, rather longer than the petals.

Sp. Pl. 2. p. 1314. Walt. p. 159. Pursh 2. p. 392. De Candolle 1. p. 268.

Root fibrous, perennial. Radical *leaves* cordate or reniform, on petioles 1—3 inches long. *Flowers* small. *Petals* yellow, about as long as the calyx, with a large scale at their base. *Seeds* smooth, collected in an oval capitulum.

Grows in wet grounds. Not common in the low country of Carolina. Flowers

6. SCELERATUS.

R. foliis glabris, radicalibus petiolatis, tripartitis, lobis trilobatis, obtuse subincisis, summis tripartitis, lobis oblongo linearibus integris, floralibus oblongis; calyce glabro; carpellis minimis in spicam oblongam dispositis. De Cand.

Leaves glabrous; those from the root on petioles, 3-parted, the segments obtusely 3-lobed, and notched, upper leaves 3-parted, with the segments oblong, linear, entire, floral leaves oblong; calyx glabrous; seeds small, forming an oblong spike.

Sp. pl. 2. p. 1315. Pursh, 2. p. 393. De Candolle 1. p. 268.
R. nitidus. Walt. p. 159.

Root perennial? fibrous. *Stem* about a foot and a half high, fistulous slightly angled, glabrous, branching and dichotomous. Lower *petioles* 4—5 inches long; embracing the stem with their dilated base. *Flowers* solitary, opposite the leaf, or in the division of the stem. *Peduncles* 5—10 lines long. *Calyx* sprinkled with hair, yellowish, finally reflected. *Corolla* small, shining, pale yellow, a little longer than the calyx, with a round pore at the base of the petals. *Filaments* 12—16, shorter than the corolla. *Germs* many, forming at first an ovate head, extending afterwards into a cylindrical spike. *Seeds* a little roughened.

Grows in wet grounds common around Charleston.

Flowers April—June.

7. REPENS.

R. foliis pinnatim trisectis, segmentis cuneatis, trilobatis, inciso dentatis; caule suberecta flagellis repentibus; calyce adpresso; seminibus acumine recto. De Cand.	Leaves pinnately 3 parted, segments cuneate, 3 lobed, notched and toothed; stem nearly erect, creeping; calyx appressed; seeds with a straight point.

Sd. pl. 2. p. 1325. Pursh 2. p. 394. De Candolle 1. p. 285.

This species is said by De Candolle, to vary very much in Europe, which is probably its native country. It is found with stems all prostrate and creeping, or with the central stem erect, or with all erect and without runners; with the surface of the leaves, when growing in dry soils, villous or pubescent, when in water very glabrous and lucid, and frequently spotted; with the segments of the leaves trifid or three parted and the segments frequently many cleft; with the flowers single or double, &c.

I have inserted this plant while I entertain much doubt whether it belongs to the Southern States. I formerly found along the banks of the Edisto, plants which I referred to this species, but they were glabrous, and Pursh describes the American R. repens as hirsute.

Grows in shady wet woods, particularly in the mountains- Pursh.

Flowers July—August. Pursh. In Spring and Summer. De Candolle.

8. NITIDUS. Muhl. Cat.

R. foliis tripartitis, inæqualiter trifidis, lanceolatis, subincisis dentatisque, glabris; calyce reflexo; petalis ovalibus, calyce duplo longioribus; seminibus acumine subrecurvo. E.	Leaves 3 parted, segments unequally 3 cleft, lanceolate, notched, toothed, glabrous; calyx reflected; petals oval, twice as long as the calyx; seed with a curved point.

Root fibrous, perennial. *Stem* procumbent and erect, about two feet high, furrowed, and a little hairy. *Leaves* with the lateral segments unequal at the base, the middle one sometimes on a long petiole, all shining, glabrous, with a few hairs along the under surface of the veins, petioles of the root leaves sometimes 1 foot long *Flowers* on peduncles 2—6 inches long. *Calyx* a little hairy. *Petals* 7—8, bright yellow, glossy, veiny, with a square scale at base. *Filaments* 60—80 very short. *Germs* 20 or more, collected in a globose head. *Seeds* compressed, with a very distinct border, and the point recurved.

This plant, the R. nitidus of Muhlenberg's Catalogue, but not of Walter, is nearly allied to the R. repens, but differs from it by the want of runners, by its reflected calyx, by its petals that are simply obtuse, never obcordate nor even emarginate, by the recurved summit of its seed, and by its leaves, which if we judge by the figure of the R. repens in Smith's English Botany, are larger, with the segments more distinctly separated, more regularly lanceolate and more acutely serrate.

Grows in wet grounds. Very common in the river swamps of Georgia.
Flowers March and April.

9. PALMATUS? E.

R. pilosus, pilis adpressis; foliis omnibus petiolatis, radicalibus palmato tripartitis, lobis dentatis; superioribus trifidis integrisve; seminibus marginatis acumine recto. E.

Hairy, with the hairs appressed; leaves all on footstalks, those of the root palmately 3 parted, with the lobes toothed, the upper 3-cleft or entire; seeds margined, with the point straight.

Root fibrous. *Stem* 12 to 18 inches high, branching, hairy, and with the hair as in every part of the plant, closely appressed. *Leaves* obtuse at base, 3 parted with the lobes expanding and dentate, the upper leaves with 2 lateral teeth, when small, entire. *Petioles* of the root leaves 4—5 inches long. *Flowers* opposite the leaves, on long slender peduncles.—The *calyx* and *corolla* I have not seen. *Seed* compressed, smooth, and like the seed of many of our species, with an incrassated margin.

Grows in St. John's Berkley.
Flowers April—May.

10. CAROLINIANUS.

R. caule erecto subramoso, petiolisque

Stem erect, branching and with the petioadpresse pubescentibus; foliis glabriusculis, trisectis trilobisve, lobis ovatis, subincisis, dentatis; calyce glabriusculo, reflexo, petalis paulo breviore.—De Cand.

les hairy with the hair appressed; leaves glabrous, 3-cleft or 3-lobed, lobes ovate, acutely toothed; calyx glabrous, reflected, a little shorter than the petals.

De Candolle 1. p. 292.

Radical leaves trisected or three lobed, segment and lobes ovate, obtuse, and obtusely toothed. De Cand.

This plant appears to resemble the preceeding species, but in the R. palmatus, the leaves as far as I have seen them, are never divided to the base, and are very hairy.

Grows in the low country of Carolina. Bosc.

Flowers

11. HISPIDUS.

R. caule erecto, ramoso petiolisque patentim pilosissimis; foliis tri-sectis tri-partitisve, segmentis ovalibus, acutis, inciso-dentatis; pedicellis adpresse pubescentibus; calyce adpresso.

Stem erect, branching, and with the petioles densely cloathed with expanding hair; leaves 3-cleft or 3-parted, segments oval, acute, sharply toothed; peduncles with the hair appressed; calyx appressed.

Mich. 1. p. 321. Pursh 2. p. 395. De Candolle 1. p. 289.

Root fibrous, perennial. Root *leaves* 3 parted, with the segments generally separated, the middle one on a petiole sometimes nearly an inch long, segments deeply 3-lobed, with the lobes acutely toothed, all very hairy, petioles sometimes 6—8 inches long, very hispid, with the hair expanding. *Stem* 12—18 inches high sparingly branched. *Flowers* on long peduncles, less hairy than the petioles, and with the hair generally appressed. *Petals* obovate, much longer than tbe calyx or stamens. *Seed* smooth, compressed, with a short straight point.

Grows in very rich shaded soils.

Flowers from April—July.

12. RECURVATUS.

R. caule erecto petiolisque patentim pilosissimis; foliis tripartitis adpresse villosis, partitionibus ovalibus subinciso-dentatis; calyce reflexo; carpellis stylo uncinato.

Stem erect and with the petioles cloathed with expanding hair; leaves 3 parted, villous, with the hair appressed, segments oval, sharply toothed; calyx reflected; seed with a hooked point.

Pursh 2. p. 394. De Candolle 1. p. 290.

Root perennial, fibrous. somewhat tuberous at the crown. *Stem* 12—18 inches high. *Leaves* 3 parted, but not to the base, the segments ovate and acutely serrate. *Flowers* small, on long peduncles. *Seeds* collected in a globose head.

Grows in shaded woods. Pursh. In Carolina. Bosc.
Flowers June to August. Pursh.

13. PENNSYLVANICUS.

R. caule erecto, petiolisque rigide patentimque pilosis; foliis trisectis adpressius villosis, segmentis subpetiolatis, acute trilobis, inciso serratis; calyce reflexo, carpellis stylo recto. De Cand.

Stem erect, and with the petioles hairy with rigid expanding hair; leaves 3-cleft, villous, with the hair appressed; segments somewhat petiolate, acutely 3-lobed, sharply serrate; calyx reflected; seed with a straight point.

Sp. pl. 2. p. 1323. Pursh 2. p. 392. De Candolle 1. p. 290.

Stem erect, 1—2 feet high, branching, hair of the stem and petioles rigid and expanding, of the peduncles and leaves appressed. *Flowers* small yellow. *Petals* elliptic, as long as the calyx. *Seeds* compressed, smooth, collected in an ovate head. De Cand.

The Ranunculi of the U. States still require further examination. I have specimens from Milledgeville, in Georgia, which I can refer to no other described species, yet they differ from the above description, by having the corolla twice as long as the calyx, and the seed slightly hooked at the summit.

Grows in the upper districts of Carolina and Georgia.
Flowers in the Summer.

14. TOMENTOSUS.

R. caule patentim villossissimo ascendente 1–2 floro; foliis petiolatis tomentosis, trisectis, summo sessili, ovato, integro; calyce villosissimo subreflexo. De Cand.	Stem ascending, very villous with the hair expanding, 1—2 flowered; leaves on petioles, tomentose, 3-cleft, the upper ones sessile, ovate, entire; calyx very villous, somewhat reflected.

Pursh, 2. p. 394. De Candolle 1. p. 292.

Root fibrous, perennial. *Stem* short, ascending at the summit, loaded with soft expanding hair. *Leaves* three parted, segments 3 lobed, lobes ovate, toothed, with the hair appressed. *Petals* obovate a little longer than the calyx. De Candolle.

Grows in the upper Districts of Carolina. Bosc.
Flowers.

**** *Floribus luteis; foliis incisis multifidisve; radice fibrosa; pericarpiis tuberculosis, echinatisve.*	**** *Flowers yellow; leaves notched or many cleft; root fibrous; seed tubercled or prickly.*

15. MURICATUS.

R. foliis glabris, petiolatis, suborbiculatis, trilobis, grosse dentatis; caule erectiusculo aut diffuso;	Leaves glabrous, on petioles, nearly round, 3-lobed, coarsely toothed; stem erect or diffuse; pe-

pedunculis oppositifoliis; calyce patente; carpillis utrinque tuberculoso-aculeatis, in cornu acuminatum rectum desinentibus. De Cand.

duncles opposite the leaves; calyx expanding; seed roughened on both sides with tubercles, terminating in a straight acuminate point.

Sp. pl. 2. p. 1329. Mich. 1. p. 321. Pursh, 2. p. 395. De Candolle 1. p. 298.

Root annual. *Stem* procumbent, branching, 12—18 inches high, succulent, sprinkled with a few white hairs, which, as usual, are more numerous near the summits. Lower *leaves* simple, slightly cordate and nearly round, shining and bright green, 3-lobed, the lobes deeply toothed, glabrous underneath, sprinkled on the upper surface with a hispid pubescence, upper *leaves* trifoliate and simple, leaflets, sometimes cuneate and dentate, the simple leaves lanceolate. *Corolla* on peduncles about an inch long. *Leaves* of the calyx lanceolate, reflected. *Petals* obovate, bright yellow, with a scale at base, longer than the calyx. *Stamens* numerous, about 16, shorter than the corolla. *Germs* numerous, compressed. *Styles* 0. *Stigmas* simple. *Seed* surrounded by a strong thick margin, the centre translucid and thickly muricated with translucid obtuse prickles, point broad, straight or very slightly recurved.

Grows in cultivated land and along the road side. Common near Charleston. Probably an exotic.

Flowers March—May.

16. TRACHYSPERMA. E.

R. caule petiolis foliisque patentim villosis; foliis trisectis, lobis acute incisis; pedunculis brevibus oppositifoliis; seminibus tuberculosis, acumine uncinato.

Stem, petioles and leaves villous with the hair expanding; leaves 3-cleft with the lobes acutely notched; peduncles short, opposite the leaves; seed tubercled with the point hooked.

Stem erect, 12—15 inches high, branching, thinly clothed with soft expanding hair. *Leaves* small, generally divided to the base, the segments acutely notched and toothed, rather more hairy than the stem. *Petioles* 2—3 inches long. *Seeds* compressed, conspicuously muricated on both surfaces, with the point short and hooked, smaller and less distinctly thickened along the margins, than those of the R. muricatus. The *calyx* and *corolla* I have not seen.

Collected in St. John's Berkley, by Dr. Macbride.

Flowers April and May.

CALTHA. Gen. Pl. 959.

Calyx 0. *Petala* 5—9. *Capsulæ* plurimæ, compressæ, 1-loculares, polyspermæ.

Calyx 0. *Petals* 5—9. *Capsules* numerous, compressed, 1-celled, many seeded.

1. Ficarioides.

C. caule erecto unifloro, unifolio; foliis radicalibus cordato-ovatis, obtusissimis, paucidentatis, multinervibus; petalis ellipticis.

Stem erect, 1-flowered, and with 1-leaf; root leaves cordate-ovate, very obtuse, sparingly toothed, many nerved; petals elliptic.

Pursh, 1. p. 389. De Candolle.
Ranunculus ficaria. Walt 159.

Root perennial. *Stem* herbaceous. *Flowers* yellow.

This plant with which I am unacquainted, I have inserted from Pursh.

Grows in Cedar swamps. Pursh.

Flowers June—July.

BRASENIA. Gen. Pl. 938.

Calyx 6–phyllus persistens. *Corolla* 0. *Capsulæ* 6—12 oblongæ, dispermæ.

Calyx 6–leaved, persistent. *Corolla* 0. *Capsules* 6—12 oblong, 2-seeded.

1. Peltata.

Pursh 2. p. 389. Nut. 2. p. 24.
Hydropeltis purpurea. Mich. 1. p. 324. T. 29.

Root perennial. *Stem* 1—10 feet long. *Leaves* alternate, somewhat crowded near the summit of the stem, elliptic, peltate, entire, floating on the surface of the water, glabrous and shining on the upper surface, the under surface purple, and together with the petioles stem and peduncle completely enveloped in a tenacious gelatinous fluid. *Petioles* 3—6 inches long. *Flowers* solitary, axillary. *Peduncles* 3—6 inches, and with the whole plant except the upper surface of the leaves, purple. Leaves of the *calyx* oval, nearly equal, the three interior membranaceous. *Stamens* 20—30, a little shorter than the calyx. *Germs* 8—12, slightly compressed, pubescent. *Styles* oblique. *Stigma* decurrent. *Capsules* a little ventricose, acute at each end, pubescent, 1-celled. *Seeds* 1—2 in each capsule, attached by the point to the dorsal suture.

For a very excellent description of the structure of the leaves of this plant, consult Nutall's Genera of North American Plants, a work abounding in acurate information respecting the plants of this country.

Grows very common in stagnant water

Flowers May—August.

CYAMUS. SALIST.

Calyx 4—5 phyllus. *Petala* plurima. *Fructus* turbinatus, indisco truncato foveis plurimis monospermis excavatus. *Nuces* ovatæ, stylo persistente coronatæ.	*Calyx* 4—5 leaved. *Petals* numerous.—*Fruit* turbinate, hollowed on its truncate disk into many one-seeded cells. *Nut* ovate, crowned with the persistent style.

1. LUTEUS.

C. foliis peltatis, orbiculatis, integerrimis; corolla polypetala; antheris superne linearibus.	Leaves peltate, orbicular, entire; corolla many petalled; anther linear near the summit.

Cyamus flavicomus. Pursh 2. p. 398.
Nymphea Nelumbo. Walt. p. 155.
Nelumbium Luteum Sp. pl. 2. p. 1259. Mich. 1. p. 317.

Root perennial. *Leaves* larger than those of any other species of our aquatic plants, peltate, orbicular, entire, generally floating, but sometimes rising above the surface of the water. *Petioles* and *Peduncles* slightly muricate. *Flowers* large. *Petals* of a pale yellow colour. *Pericarp* woody, 3—4 inches in diameter, with a truncated disk, perforated with 15 or 20 cells, each containing an oval nut, about the size of an acorn.

This plant seems capable of growing in deeper water than either the Nymphæa or the Nuphar. Its leaves appear late in the spring, and its flowers do not expand until mid-summer. The upper surface of the leaves possess in a greater degree, than the leaves of any other plant with which I am acquainted, the power of repelling water.

2. PENTAPETALUS.

C. foliis peltatis orbiculatis integerrimis; calyce pentaphyllo; corolla pentapetala.—Walt.	Leaves peltate, orbicular, entire, calyx 5-leaved; corolla 5-petalled.

Cyamus pentapetalus Pursh 2. p. 389.
Nelumbium pentapetalum. Sp. pl. 2. p. 1259.
Nymphæa pentapetala. Walt. p. 155.

This species and the succeeding, still rest on the authority of Walter. No botanist, has recently seen them. They should probably be sought for in the lagoons, along the Santee-river.

3. RENIFORMIS.

C. foliis reniformibus, corolla polypetala. Walt.	Leaves reniform; corolla polypetalous.

Cyamus reniformis. Pursh. 2 p. 398.
Nelumbium reniforme Sp. pl. 2. p. 1260.
Nymphæa reniformis. Walt. p. 155

CLASS XIV.

DIDYNAMIA.

GYMNOSPERMIA.

358 TEUCRIUM.
359 HYSSOPUS.
360 NEPETA.
361 MENTHA.
362 LAMIUM.
363 STACHYS.
364 MARRUBIUM.
365 LEONURUS.
366 HYPTIS.
367 PYCNANTHEMUM.
368 DRACOCEPHALUM.
369 MACBRIDEA.
370 PRUNELLA.
371 SCUTELLARIA.
372 CALAMINTHA.
373 CERANTHERA.
374 TRICHOSTEMA.

ANGIOSPERMIA.

375 PHRYMA.
376 VERBENA.
377 ZAPANIA.
378 LANTANA.
379 HERPESTIS.
380 SCROPHULARIA.
381 BIGNONIA.
382 RUELLIA.
383 BUCHNERA.
384 ANTIRRHINUM.
385 GERARDIA.
386 SEYMERIA.
387 PEDICULARIS.
388 MIMULUS.
389 CHELONE.
390 PENTSTEMON.
391 MARTYNIA.
392 SCHWALBEA.
393 EUCHROMA.
394 MELAMPYRUM.
395 OBOLARIA.
396 OROBANCHE.

* * *

TEUCRIUM. Gen. Pl.

Corollæ labium superius infra basin fissum, divaricatum. *Stamina* extantia. Smith.	Upper lip of the *corolla* divided beyond the base. *Segments* divaricate. *Stamens* projecting.

1. Canadense.

T. foliis ovato lanceolatis, petiolatis, acute serratis pubescentibus, subtuscanes-	Leaves ovate lanceolate, on petioles, acutely serrate, pubescent, underneath hoa-

centibus; racemis subverticillatis, terminalibus; bracteis calyce duplo longioribus.	ry, racemes somewhat verticillate, terminal; bracteas twice as long as the calyx.

Sp. pl. 3. p. 22. Walt. p. 161. Mich. 2. p. 1. Pursh, 2. p. 405, Smith in Rees' Cyclop.

Root perennial. *Stem* herbaceous, erect, 2—3 feet high, square with the angles rounded, furrowed, somewhat jointed, pubescent. *Leaves* opposite, brachiate, somewhat rugose, hoary and almost tomentose underneath, on very short petioles. *Racemes* terminal. *Flowers* generally verticillate, 4—6 in each whorl, the upper flowers irregular; bracteas subulate at the base of each peduncle, about as long the calyx. *Peduncles* short. *Calyx* pubescent, ribbed, erect, 5-cleft, the three upper segments broad, the two lower narrower, all acute. *Corolla* pubescent, pale blue or violet coloured, the tube as long as the calyx, the upper lip divided into two distant acute segments, the fissure extending into the tube, the lower lip elongated, 3-cleft, the middle lobe extended and rounded. *Filaments* 4, prominent between the division of the upper lip. *Style* as long as the stamens. *Stigmas* 2, acute. *Seeds* 4, covered by the persistent calyx.

The two American species of this plant, are still insufficiently discriminated. It will be perceived by the foregoing description, that our southern plant agrees in its bracteas and perhaps its petioles with the next species, while its leaves belong to the T. canadense.

Grows in wet soils, very common.

Flowers July—September.

2. Virginicum.

T. pubescens; foliis ovato-oblongis serratis, superioribus subsessilibus, caule erecto; racemis verticillatis, confertis; bracteis longitudine calycis.	Pubescent; leaves ovate, oblong, serrate, the upper ones nearly sessile; stem erect; racemes verticillate, crowded; bracteas as long as the calyx.

Sp. pl. 3. p. 22. Walt. 1. p. 61. Pursh 2.

This doubtful or obscure species is said to grow in bogs. Pursh. I have however a specimen sent me from Pennsylvania by Mr. Nuttall as the T. virginicum, in which the leaves are more ovate, on longer footstalks and evidently less discoloured than in our common species. I can in this specimen discover no other difference.

Grows in wet ground from Pennsylvania to Carolina.

Flowers probably like the other species from July to September.

HYSSOPUS. Gen. Pl. 963.

Corollæ labium inferius tripartitum, lacinula intermedia crenata. *Stamina* recta, distantia.	Lower lip of the *corolla* 3-parted, with the intermediate segment crenate. *Stamens* straight, distant.
2. Scrophularifolius.	Wild.
H. spicis verticillatis, cylindricis; stylis corolla longioribus; foliis cordatis, ovatis, acuminatis, obtuse dentatis.	Spikes verticillate, cylindrical; style longer than the corolla; leaves cordate, ovate, acuminate, obtusely toothed.

Sp. pl. 3. p. 48. Pursh 2. p. 406.

Root perennial. *Stem* herbaceous 2—3 feet high, square, glabrous, excepting near the summit, where it is a little pubescent. *Leaves* opposite, ovate-lanceolate, slightly acuminate, sprinkled with a few hairs, on pubescent petioles, from half an inch to an inch long. *Flowers* crowded in whorls, forming a long cylindrical spike. *Bracteas* ovate, acuminate, with the calyx nearly glabrous. The *corolla* of an obscure red. *Stamens* long and distant. *Styles* longer than the corolla.

Grows in the mountains of Carolina and Georgia. Found on the Saluda mountains by Dr. Macbride.

Flowers July to September.

NEPETA. Gen. Pl. 964.

Calyx aridus, striatus. *Corollæ* labium inferius crenatum. *Faux* margine reflexo. *Stamina* approximata.	*Calyx* dry, streaked. Lower lip of the *corolla* crenate. Margin of the *throat* reflected. *Stamens* near together.
1. Cataria.	
N. floribus spicatis, verticillis subpedicel-	Flowers in spikes, whorls on short foot-

latis; foliis petiolatis, cordatis, dentato-serratis.

stalks; leaves on petioles, cordate, coarsely serrated.

Sp. pl. 3. p. 49. Mich. 2. p. 2. Pursh, 2. p. 406.

Root perennial. *Stem* 2—3 feet high, 4-angled, pubescent. *Leaves* cordate, acute, like the whole plant pubescent, and on the under surface somewhat hoary. *Petioles* nearly an inch long, diminishing in length towards the summit of the stem. *Calyx* tubular, ribbed, 5-toothed, teeth unequal, the upper one the longest. *Corolla* small, nearly white, the upper lip straight, slightly emarginated, the lower 3-lobed, the lateral lobes small, reflected, the intermediate dilated, crenated, and sprinkled with crimson or purple dots. *Stamens* shorter than the corolla.

An exotic plant, naturalised in our country. Found around buildings and in dry soils. Not common in the low country of Carolina.

Flowers June—August.

MENTHA. GEN. PL. 967.

Corolla subæqualis, quadrifida, lacinia latiore emarginata. *Stamina* erecta, distantia.

Corolla nearly equal, 4-cleft, with the broadest segment emarginate. *Stamens* erect, distant.

1. TENUIS.

M. glabra; foliis ovato-lanceolatis, serrulatis, petiolatis; spica gracili, terminali, verticillis minimis interrupta; staminibus inclusis.

Glabrous; leaves ovate lanceolate, serrulate, on petioles; spike slender, terminal, with verticills very small, distant at base; stamens shorter than the corolla.

Mich. 2. p. 2. Pursh 2. p. 405. M. Viridis. Walt?

Root perennial. *Stem* procumbent, and assurgent, 1—2 feet long, 4-angled, glabrous, branching, throwing out roots at the joints, and with the whole of the plant punctured with glandular dots. *Leaves* opposite, generally acute, delicate, on petioles, about 3—4 lines long. *Flowers* numerous in each whorl. *Whorls* rather distant at the base of the spike, crowded near the summit. *Calyx* tubular, glabrous, ciliate, erect with 5-equal and very acute teeth. *Corolla* funnel formed, bluish, the tube a little longer than the calyx, the border almost equally 4-cleft, the segments obtuse and a little expanding, the upper one emarginate. *Stamens* very short, included in the tube of the corolla, equally distant, not approximated by pairs. *Anthers* white. *Style* longer than the corolla. *Stigmas* two, acute, revolute. *Seeds* 4-oval, protected as in all of this order, by a persistent calyx.

Grows in wet ground, rare, found around a spring, near the Club-house, about 3 miles from Beaufort.
Flowers August—September.

Several European species of Mentha are becoming naturalized in our country, this is the only species I have seen which appears indigenous.

LAMIUM. GEN. PL.

Corollæ labium superius integrum, fornicatum, labium inferius bilobum; *faux* utrinque margine dentata.	Upper lip of the *corolla* entire, vaulted, lower lip 2-lobed; *throat* with the margin toothed at each side.

1. AMPLEXICAULE.

L. foliis floralibus sessilibus, amplexicaulibus, obtusis.	Floral leaves sessile, embracing the stem, obtuse.

Sp. pl. 3. p. 90. Walter 1. p. 61. Pursh 2. p. 206.

A small annual plant, the *stems* branching at base, about a foot high, square and pubescent. *Leaves* opposite, nearly round, notched, rugose, pubescent, the upper ones sessile, the lower on petioles from half an inch to an inch long. The *flowers* in axillary whorls, in the bosom of the upper leaves. *Calyx* tubular, hairy, with the border five cleft. *Corolla* bilabiate, the tube twice as long as the calyx, bright purple, the throat and lower lip marked with paler spots. *Stamens* included in the upper lip of the corolla. *Style* about as long as the stamens. Stigmas two, acute. A plant probably imported; now every where in cultivated lands.

Flowers February—April.

STACHYS. Gen. Pl.

Calyx 5–fidus, aristatus. *Corollæ* labium superius fornicatum; labium inferius lateribus reflexum; lacinia intermedia majore emarginata. *Stamina* deflorata versus latera reflexa.

Calyx 5–cleft, awned. Upper lip of the *corolla* vaulted, lower lip with the sides reflected, and the intermediate segment large, emarginate. *Stamens* when fading, reflected towards the sides.

1. Hyssopifolia.

S. glabriuscula, gracilis, erecta; foliis sessilibus lineari-lanceolatis linearibusque, rariter subdentatis, verticillis subquadrifloris.

Somewhat glabrous, slender, erect; leaves sessile, linear lanceolate and linear, rarely toothed; whorls generally 4-flowered.

Mich. 2. p. 4. Pursh 2. p. 407.
S. palustris. Walt?

Stem erect, smooth, 12—15 inches high, generally simple. *Leaves* sessile, very finely serrulate, about an inch long, glabrous, frequently linear; at the base of the leaves are found a few bristles performing probably the function of stipules. *Flowers* sessile. *Calyx* glabrous, the teeth very acute, almost spinous. *Corolla* much longer than the calyx, a little hairy on the inside. *Stamens* nearly as long as the corolla. *Anthers* two lobed, incumbent. *Stigmas* two, acute.

Grows like all the other species of this Genus, in wet pine-barrens, most common in the middle country of Carolina and Georgia.

Flowers June—August.

2. Hispida.

S. caule foliisque hispidis; foliis petiolatis, ovato-oblongis, acutis, obtuse serratis,;

Stem and leaves hispid; leaves on petioles, ovate-oblong, acute, obtusely ser-

verticillis subquadrifloris; calycibus glabriusculis.	rate; whorls generally 4-flowered; calyx glabrous.

Pursh 2. p. 407.
S. arvensis Walter p. 162.

Stem about 2 feet high, square, hispid along the angles, the bristles generally retrorse. *Leaves* nearly sessile, very oblong, ovate, acute, serrulate rather than obtusely serrate, somewhat hispid on both surfaces. *Calyx* generally 4 in each whorl, the teeth prominent and very acute, their margins and the angles of the calyx pubescent. *Corolla* larger than in our other species, rather longer than the stamens, yellowish purple.

Grows in the wet pine barrens of Carolina.
Flowers June—August.

3. ASPERA.

S. caulibus erectis, retrorsum hispidis; foliis lineari lanceolatis, serratis, glabriusculis; verticillis subsexfloris, calycibus divaricato-spinescentibus.	Stems erect, retrosely hispid; leaves linear lanceolate, serrate, nearly glabrous; whorls generally 6-flowered; teeth of the calyx divaricate, spiny.

Mich. 2. p. 5. Pursh 2. p. 407.

I am uncertain whether I am not referring to the S. Aspera of Michaux a plant which may belong to another species. *Stem* 18—24 inches high, square, the angles fringed with retrorse bristles. *Leaves* long (2—3 inches) very narrow, sessile, acute, finely serrulate, the margins fringed and the veins sprinkled with short acute bristles. *Flowers* generally 6 in a whorl. Teeth of the *calyx* very acute, somewhat divergent and with the angles fringed with short bristles. *Corolla* much longer than the calyx, purplish *Stamens* as long as the corolla.

Grows in the pine barrens of Carolina.
Flowers June—August.

4. TENUIFOLIA.

S. caule erecto, angulato, sublævi; foliis petiolatis, ovali lanceo-	Stem erect, angled, nearly smooth; leaves on petioles, oval-lan-

latis, serratis, acuminatis; verticillis sexfloris;calycibus pubescentissimis.

ceolate, serrate, acuminate; whorls 6-flowered; calyx very pubescent.

Sp. pl. 3. p. 100.
S. Annua Walt. 161.

Stem 18 to 24 inches, angled, nearly glabrous, sprinkled with a few hairs, particularly at the summit and near the joints.

MARRUBIUM. Gen. Pl. 976

Calyx hypocrateriformis, rigidus, 10-striatus. *Corollæ* labium superius bifidum, lineare, rectum.

Calyx hypocrateriform, rigid, 10-streaked. Upper lip of the *corolla* 2-cleft, linear, straight.

1. Vulgare.

M. foliis subrotundo-ovatis,dentatis, rugoso-venosis; calycibus dentibus setaceis, uncinatis.

Leaves ovate, nearly round, toothed, rugose; teeth of the calyx setaceous, hooked.

Sp. pl. 3. 111. Pursh 2. 408.

A perennial plant, growing in dense tufts. *Stems* about a foot high, branching at base, square, with the whole plant tomentose and hoary. *Leaves* very rugose, attenuated at base into petioles about half an inch long. *Flowers* in axillary whorls, very numerous. Teeth of the *calyx* acute, and somewhat spinous. *Corolla* small, white, lower lip 3-lobed. *Stamens* and *styles* shorter than the corolla.

This plant though originally a foreign one, is now naturalized. It grows very common about buildings in dry soils. Flowers during the greater part of the summer.

LEONURUS.

Calyx 5-gonus, 5-dentatus. *Corollæ* labium superius villo-

Calyx 5-angled, 5-toothed. Upper lip of the *corolla* villous,

sum, planum, integrum; inferius tripartitum, lacinia media indivisa.

flat, entire; the lower 3-parted, with the middle segment undivided.

1. Cardiaca.

L. foliis obovatis, trilobis, dentatis, basi cuneatis; corollis calyce pungente majoribus, lacinia media labii inferioris acuta.

Leaves obovate, 3-lobed, toothed, cuneate at base; corolla longer than the sharp toothed calyx, the middle segment of the lower lip acute.

Sp. pl. 3. p. 114. Pursh 2. p. 408.

Root biennial or perennial. *Stem* about 3 feet high, 4 angled, with the angles pubescent. *Leaves* generally 3 lobed, sometimes dentate, the upper ones entire, pubescent along the veins, cuneate at base, erect, supported on petioles rather more than half an inch long. *Flowers* in axillary whorls extending along the greater part of the stem. *Calyx* nearly glabrous with 5 very acute expanding teeth. *Corolla* small, very villous on the outer surface. *Anthers* sprinkled before they burst with white globular points. *Stamens* shorter than the corolla.

Grows in rich soils about buildings, a foreign plant becoming naturalized.

Flowers May—August

HYPTIS.

Calyx 5-dentatus. *Corolla* ringens, labium superius bifidum, inferius tripartitum, lacinia media sacculiformi. *Stamina* tubiventri inserta, declinata.

Calyx 5-toothed. *Corolla* ringent, the upper lip 2-cleft, the lower 3-parted, the middle segment forming a small sack. *Stamens* inserted in the middle of the tube, declining.

1. RADIATA.

H. capitulis oppositis; bracteis lanceolatis calyce longioribus, foliis oblongo lanceolatis, dentatis, basi attenuatis.

Heads of flowers opposite; bracteas lanceolate, longer than the calyx; leaves oblong lanceolate, dentate, tapering at base.

Sp. pl. 3. p. 84. Pursh 2. p. 408.
Clinopodium rugosum Walt. p. 164.

Root perennial somewhat creeping. *Stem* herbaceous, erect, 3—4 feet high, 4-angled, pubescent, and somewhat scabrous near the summit. *Leaves* opposite, sessile, pubescent, dotted underneath, sometimes 2 or 3 of the teeth very large, the base very long and tapering. *Flowers* on axillary heads, on long peduncles, the lower peduncles sometimes as long as the internodes, the upper ones much shorter. The *involucrum* many leaved (about 12) persistent, the leaflets generally in two series, unequal, the exterior ones larger, but all much longer than the calyx. *Calyx* somewhat tubular, very pubescent, villous at base, the border 5-toothed, the teeth long, linear, equal. *Corolla* white, a little sprinkled with purple, the lower lip 3-cleft, the lateral segments small and obtuse, the intermediate long, with a scale at base. *Stamens* shorter than the corolla. *Anthers* incumbent, reflexed. *Style* as long as the stamens. *Stigma* obtuse. *Seed* 4, oval.

Grows in damp soils in pastures, very common.
Flowers July to September.

2. CAPITATA.

H. capitulis oppositis; pedunculo internodiis longitudine; bracteis lanceolatis, calyce frugifero brevioribus; foliis oblongis, utrinque attenuatis, inæqualiter serratis.

Heads of flowers opposite; peduncle as long as the internodes; bracteas lanceolate, shorter than the calyx of the fruit; leaves oblong, tapering at each end, unequally serrate.

Sp. pl. 3. p. 84. Mich. 2. p. 9. Pursh 2. p. 408.

I doubt much whether this West Indian species notwithstanding the references to Mich. and Pursh, belongs to our Flora. Mich. describes but one species, and the preceding is diffused every where over our country. Michaux besides was so cautious in proposing new species, that he hesitated to separate our plant from the original species of Jacquin, and Pursh's information respecting our southern plants was not always accurate.

PYCNANTHEMUM. Mich.

Involucrum multibracteatum, *capitulis* subjectum. *Calyx* tubulatus, striatus. *Corollæ* labium superius subintegrum, inferius trifidum. *Stamina* subæqualia, distantia.	*Capitulum* surrounded by an involucrum of many leaves. *Calyx* tubular, striate. Upper lip of the *Corolla* nearly entire, the lower 3-parted. *Stamens* equal, distant.
* *Staminibus exsertis.*	* *Stamens exserted.*

1. Incanum.

P. foliis oblongo-ovatis, acutis, subserratis, cano-tomentosis, petiolatis; capitulis compositis, lateralibus terminalibusque; bracteis setaceis.	Leaves oblong ovate, acute, somewhat serrate, hoary, tomentose, on petioles; heads compound, lateral and terminal; bracteas setaceous.

Mich. 2. p. 7. Pursh 2. p. 409. Nutt. p. 33.
Clinopodium incanum, Sp. pl. 3. p. 132. Walt. p. 164.

Root perennial. *Stem* herbaceous, branching, 3—6 feet high, 4-angled, with the angles rounded, glabrous at base, very pubescent near the summit. *Leaves* opposite, acute at each extremity, pubescent, the pubescence on the lower surface of the lower leaves, and on both sides of the upper, double,the shorter in floccose spots,giving the leaves a discoloured appearance. *Flowers* in heads, composed of compact cymes,, the lateral ones on short footstalks, bracteas linear or setaceous, longer than the calyx.

Calyx tubular, tomentose, striate, with the border 5-toothed. *Corolla* yellowish, spotted with purple, pubescent on the inner surface, the upper lip small and nearly round, the lower longer, 3-parted. *Stamens* scarcely longer than the corolla. *Anthers* incumbent. *Styles* as long as the stamens. *Stigmas* 2, acute. *Seed* 4, rugose.

Grows in dry fertile soils.

Flowers August—September.

2. ARISTATUM.

P. foliis angusto lanceolatis, subserratis, brevissime petiolatis, subcandicantibus; capitulis terminalibus; bracteis aristatis.	**Leaves narrow, lanceolate, slightly serrate, on very short petioles, somewhat hoary; heads terminal; bracteas awned.**

Mich. 2. p. 8. Pursh 2. p. 409. Nutt. 2. p. 33.

Nepeta virginica. Sp. pl. 3. p. 56.

Stem 2—3 feet high, square, much branched, and with the whole plant; pubescent. *Leaves* in my specimens very narrow, nearly entire, bracteas subulate, and with the teeth of the calyx terminated by long awns. *Corolla* small, white, smooth on the inner surface.

Grows on the mountains of Carolina.

Flowers July—August.

3. MONTANUM. Mich.

P. foliis ovali lanceolatis, serratis, subsessilibus; capitulo sessili; bracteis ciliatis, acuminatis; calycibus erectis, breviter dentatis.	**Leaves oval lanceolate, serrate, nearly sessile; head sessile; bracteas fringed, acuminate, calyx erect with short teeth.**

Mich. 2. p. 8. Pursh 2. p. 409. Nuttall 2. p. 33-

Stem purple, smooth, about 1 foot high. *Whorls* sometimes 1 or 2 below the terminal one. Orifice of the *corolla* pubescent. *Stamens* exserted. *Corolla* purplish, spotted. *Seed* bearded at the summit. Nuttall.

Grows on the highest mountains of North and South-Carolina.

Flowers.

4. MONARDELLA.

P. pubescens; foliis abrupte petiolatis subcordato-ovalibus serratis; bracteis magnis, coloratis, ciliatis; calycibus summitate barbatis.

Pubescent; leaves abruptly petiolate, oval, slightly cordate, serrate; bracteas large, coloured, fringed; calyx bearded at the summit.

Mich. 2. p. 8. Pursh 2. p. 409. Nutt. 2. p. 33.

Stem 2—3 feet high. *Leaves* on petioles nearly an inch long, very obtuse, rather than cordate at base, slightly acuminate and strongly serrate. *Bracteas* about twice as long as the calyx. *Corolla* small, pale red.

In my specimens which were collected by Dr. Macbride on the Saluda mountains, the stem and the leaves, except along the margins are nearly glabrous, if they had exhibited whorls below the terminal one, according to the habit of the genus, they would pretty accurately represent the Origanum Clinopodioides of Walt. p. 165.

Grows on the Saluda mountains.

Flowers July—August.

5. NUDUM. Nuttall.

P. glaberrimum; caule sub simplici; foliis oblongo-ovatis, integerrimis, sessilibus; capitulis pedicellatis, paucifloris, nudis; staminibus exsertis. Nutt. Gen. 2. p. 34.

Very glabrous; stem simple; leaves oblong-ovate, entire, sessile; heads pedicellate, few flowered, naked; stamens exserted.

Stem 2 feet high. *Leaves* very smooth, about an inch long, prominently veined, heads numerous and small, subtended by bracteas about the same length. *Flowers* distinct. *Bracteas* smooth, lanceolate, and with the calyx awnless, both conspicuously covered with resinous punctures. Orifice and exterior of the *corolla* pubescent. *Lobes* of the lower lip nearly equal. *Seeds* smooth. Nutt.

Grows in the mountains of Carolina and Georgia.

6. Virginicum.

P. pubescens; foliis sessilibus, lineari-lanceolatis, integris, punctatis; capitulis terminalibus, corymbosis; bracteis acuminatis.	Pubescent; leaves sessile, linear lanceolate, entire, dotted; heads terminal, corymbose; bracteas acuminate.

Nutt. 1. p. 33.
P. lanceolatum. Pursh 2. p. 410.
Thymus virginicus. Sp. pl. 3. p. 145.

Stem erect, and the branches generally erect. The heads terminal, forming irregular clustered corymbs. The *Bracteas* and *Calyx* villous. The *Corolla* externally pubescent, white and spotted, the middle segment of the lower oblong, incurved at the point.

Grows in damp lands in the middle and upper country of Carolina.
Flowers July—August.

7. Linifolium.

P. glabrum; foliis linearibus, integerrimis, nervosis, punctatis, acutis; capitulis terminalibus, subcorymbosis; bracteis breviter aristatis; staminibus vix corolla longioribus.	Glabrous; leaves linear, entire, nerved, dotted, acute; heads terminal, somewhat corymbose; bracteas with short awns; stamens scarcely longer than the corolla.

Pursh 2. p. 409. Nutt. 2. p. 33.
Brachystemum virginicum. Mich. 2. p. 6.
Thymus virginicus. Sp. pl. 3. p. 143.

Stem erect and much branched, branches fastigiate. *Leaves* generally clustered, terminal, capituli hemispherical and very compact. The *bracteas* ovate, ciliate and with the calyx awned. *Flowers* hairy, internally spotted, the middle segment of the lower lip oblong and incurved at the point. *Stamens* about as long as the corolla.

This and the preceding species which are very nearly allied, were both included by Linnæus under the T. virginicus. They differ much in appearance from the other species of this genus, I have followed Mr. Nuttall generally in their arrangement and characters.

Grows in damp soils in the mountains of Carolina.

Flowers July—August.

** Staminibus inclusis.	_** Stamens included._

8. MUTICUM.

P. foliis lanceolatis, leviter rariterque dentatis, nervoso-costatis, glabellis; bracteis lanceolatis, acutis.	**Leaves lanceolate slightly toothed, ribbed, glabrous; bracteas lanceolate, acute.**

Pursh 2. p. 410.
Brachystemum muticum. Mich. 2. p. 6.

A plant 18—24 inches high. *Leaves* sessile, very sparingly toothed, glabrous and with the whole plant dotted. *Capituli* somewhat loosely flowered. *Bracteas* scarcely longer than the heads. Bracteas and teeth of the *calyx* acute, but neither acuminate nor awned. Teeth of the calyx fringed. *Corolla* pubescent, whitish, small.

Grows in the upper districts of Georgia and Carolina. Dr. Baldwin and Michaux.

Flowers.

9. VERTICILLATUM.

P. foliis ovato lanceolatis, interdum denticulatis, pubescentibus, verticillis compactis; bracteis acuminatis.	**Leaves ovate, lanceolate, sometimes toothed, pubescent; whorls compact; bracteas acuminate.**

Pursh 2. p. 410.
Brachystemum verticillatum. Mich. 2. p. 6.

Stem 18—24 inches, square, branching, when young very pubescent. *Leaves* sessile, very acute, many of them very distinctly though remotely denticulate, pubescent and not as distinctly ribbed as the preceding species. *Bracteas* acuminate and with the calyx almost villous, teeth of the calyx short but slightly acuminate, the whole plant dotted; the calyx sprinkled with resinous atoms, flowers small.

Grows in the mountains of Carolina.

Flowers July—August.

DRACOCEPHALUM. Gen. Pl. 984.

Calyx 5-fidus, dentibus subæqualibus. *Corollæ* faux inflata, labium superius concavum.	*Calyx* 5-cleft with teeth nearly equal. Throat of the *corolla* inflated, the upper lip concave.

1. Virginianum.

D. spicis elongatis confertifloris; bracteis parvulis, subulatis; calycis dentibus brevibus, subæqualibus; foliis lineari-lanceolatis, acute serratis.	Spikes long with the flowers crowded; bracteas small, subulate; teeth of the calyx short, nearly equal; leaves linear lanceolate, acutely serrated.

Sp. pl. 3. p. 149. Mich. 2. p. 10. Pursh 2. p. 411.

Root perennial and in all the species creeping. *Stem* glabrous, square, 2—3 feet high, pubescent near the summit. *Leaves* opposite, sessile, 2—3 inches long, narrow, very acutely serrate towards the summit, serratures almost acuminate. *Spikes* terminal. *Flowers* generally opposite. *Bracteas* subulate, slightly acuminate, scarcely half as long as the calyx, and with the calyx very pubescent. *Corolla* inflated at the throat, bright purple, handsome, two or three times as long as the calyx, longer than the stamens.

Grows in mountain meadows. Pennsylvania to Carolina. Pursh.
Flowers July—September.

2. Variegatum. Venterat.

D. spicis brevibus tetragonis; bracteis ovatis, acuminatis, calycem æquantibus; calycis dentibus paulo inæqualibus; foliis arcte sessilibus, ob-	Spikes short, square; bracteas ovate, acuminate, as long as the calyx; teeth of the calyx a little unequal; leaves closely sessile, oblong lan-

longo lanceolatis, superne denticulatis.	ceolate, toothed near the summit.

Pursh 2. p. 411.
Prasium incarnatum. Walt. p. 165.

Stem about 3 feet high, square, glabrous, with the angles cartilaginous. *Leaves* long, lanceolate, very acute, obtusely serrulate or denticulate particularly towards the summit, semiamplexicaule, but the lower ones much attenuated above the base, all glabrous. *Bracteas* and *Calyx* pubescent. *Corolla* ringent, bright purple, pubescent, 4 times as long as the calyx, inflated, the border 4 cleft, the upper segment large, rounded, the 3 inferior oblong, emarginate, the intermediate one streaked and spotted. *Filaments* hairy, shorter than the corolla. *Anthers* two lobed, adhering only at the summit, toothed at base, dark purple with a white fissure. *Style* hairy. *Stigmas* two, acute. A *gland* longer than the germs is attached to their base, slightly angled, tapering, obtuse. *Seeds* ovate, angled on the inner side.

Grows in marshy soils, on the margins of rivers.
Flowers May—June.

3. DENTICULATUM.

D. spicis elongatis, remotifloris; bracteis parvulis, lato-subulatis; calycis dentibus subæqualibus; foliis ovato?-lanceolatis, denticulatis.	Spikes long with flowers distant; bracteas small, subulate; teeth of the calyx nearly equal; leaves ovate lanceolate, slightly toothed.

Sp. pl. 3. p. 150. Pursh 2. p. 411.
Prasium purpureum. Walt. p. 166.

Smaller than D. Virginicum. (Pursh.) *Stem* square, glabrous and very minutely pubescent at the summit. *Leaves* closely sitting, oblong and generally ovate lanceolate, rather acutely serrulate than denticulate, glabrous. *Bracteas* about half as long as the calyx, and with the calyx minutely pubescent. *Corolla* moderately large, handsome, variegated on the lower lip, longer than the stamens.

My specimens appear to differ in their leaves at least from the original description of the D. denticulatum of Aiton, but they agree minutely with the figure in Curtis's Botanical Magazine, Vol. 6. tab. 214.

Grows in the mountains. Carolina to Pennsylvania.
Flowers July—September.

4. Obovatum. E.

D. spicis brevibus; foliis sessilibus, cuneato-obovatis, superne dentatis; bracteis minimis, ovatis, acuminatis. E.	**Spikes short; leaves sessile, cuneate, obovate, toothed near the summit; bracteas very small, ovate, acuminate.**

Stem about 15 inches high, square, glabrous, pubescent at the summit. *Leaves* about an inch and a half long, semiamplexicaule at base, strongly tooothed towards the summit. *Flowers* opposite, not crowded in the spike. *Bracteas* smaller than in any of the preceding species, with the calyx pubescent, teeth of the calyx nearly equal. *Corolla* pubescent.

If my specimen gives a fair exhibition of this species, it is, when compared with the preceding species, a smaller plant, with the corolla less inflated. Can this have been the original D. denticulatum of Aiton? Collected near St. Mary's Georgia by Dr. Baldwin.

Flowers May—July.

MACBRIDEA. E.

Calyx **subturbinatus, trifidus; laciniis duabus majoribus.** ***Corolla*** **bilabiata, labio superiore integro, inferiore tripartito.** ***Antheræ*** **bilobæ, lobis divaricatis, spinoso ciliatis.**	***Calyx*** **turbinate, 3-cleft, with 2 segments large.** ***Corolla*** **two lipped, the upper entire, the lower 3-parted.** ***Anthers*** **2-lobed, the lobes divaricate, fringed with small spines.**

1. Pulchra. Nutt. 2. p. 36.

Thymbra caroliniana. Walt. p. 162.

Root perennial, creeping. *Stem* herbaceous, erect, simple, 12 to 18 inches high, square, glabrous, a little hairy at the joints. *Leaves* opposite, lanceolate, acute, serrulate, dotted, ciliate, glabrous underneath, a little hairy on the upper surface, the upper ones sessile, the lower attenuated at base as if on petioles about half an inch long. *Flowers* verticil ate in terminal spikes, whorls 4-flowered, a bractea at the base of each flower nearly as long as the calyx, ovate, acute, dotted, fringed and sprinkled with capitate glandular hair. *Calyx* erect, striate, the border 3-cleft, 2 segments, large, rounded, the third narrow, obtuse, a little shorter. *Corolla* bilabiate, the tube longer than the calyx, streaked with bright purple and white, the upper lip entire, large, slightly vaulted, the lower lip shorter, 3-lobed, the lobes obtuse and reflexed. *Filaments* shorter than the corolla, a little hairy, appressed to the upper lip, the anthers 2-lobed, nearly black, villous, the lobes divaricate, very acute and as it were fringed with short spines. *Germs* 4, glabrous. *Style* as long as the two shorter stamens. *Stigmas* 2, simple, acute. A white oval gland larger than the germs is placed at their base.

This plant, nearly allied to Melittis, appears to differ in its calyx, corolla, anthers and perhaps by its glands. I have therefore inserted a minute description that it may be compared with that genus. Its habit is peculiar, each whorl when in flower appears to be on the summit of the stem, two flowers generally shoot up at a time, these are large for this order, rather exceeding an inch in length, and are fancifully said to resemble two ears, sometimes, though very rarely, all the flowers of the whorl expand at the same time. While the first whorl is flowering, the stem insensibly extends, and when the first flowers have decayed a second whorl appears on the summit of the stem ready to expand its two most forward buds. There are rarely more than three or four whorls, on each stem. I have named this genus in commemoration of the late Dr. James Macbride whose untimely death, Medicine and Natural History, and an admiring country equally deplore.

Grows in the narrow swamps, through the pine barrens in the middle districts of Carolina. Very abundant between Saltcatcher bridge and Murphy's bridge on the Edisto river.

Flowers August—September.

PRUNELLA. Gen. Pl.

Corollæ labium superius dilatatum. *Filamenta* bifurca, altero apice antherifera. *Stigma* bifidum.

Upper lip of the *corolla* dilated. *Filaments* forked, one summit bearing an anther. *Stigma* 2-cleft.

1. Vulgaris.

P. foliis petiolatis oblongo-ovatis, basi

Leaves on petioles, oblong ovate, toothed

dentatis; calycis labiis inæqualibus, superiore truncato, aristato, caule adscendente.	at base; lips of the calyx unequal, the upper one truncated and awned; stem ascending.

Sp. pl. 3. p. 176. Walt. p. 163. Mich. 2. p. 11. Pursh 2. p. 412.

Stem branching near the base, perennial, creeping, square, pubescent along the angles, hairy at the summit. *Leaves* ovate, a little denticulate near the base, a little hairy, particularly along the margin, on long hairy petioles. *Flowers* in cylindrical, compact spikes,axillary and terminal, a pair of leaves at the base of each spike. *Bracteas* reniform, rounded, fringed, and coloured on the margin. *Calyx* hairy on the angles and along the margin of the teeth and of the upper lip. The upper lip 3-awned. The teeth of the lower lip very acute and just as long as the upper. *Corolla* rather more than twice as long as the calyx, violet, varying, sometimes more deeply coloured. The upper lip rounded and emarginate, the lower 3-lobed and minutely toothed. *Filaments* shorter than the corolla, forked at the summit, bearing an anther upon one fork. *Style* about as long as the stamens. *Stigmas* 2 acute.

Our plant appears to be but a variety of the P. Vulgaris, it is however very much diffused and is found with us generally in woods and not around habitations.

Grows in stiff clay soils.

Flowers May. July.

SCUTELLARIA. Gen. Pl.

Calyx ore integro, post florescentiam clauso, operculato. *Corollæ* tubus elongatus.	*Calyx* with the mouth entire, closed and covered with a lid after flowering. Tube of the *corolla* long.

1. Integrifolia.

S. dense pubescens; foliis inferioribus, ovatis, crenatis, basi attenuatis, superioribus lineari-	Densely pubescent; lower leaves ovate, crenate, attenuate at base, upper ones linear lanceolate, obtuse.

lanceolatis, obtusis, integerrimis, sessilibus; racemis laxifloris foliosis.	entire, sessile; racemes loosely flowered, leafy.

Sp. pl. 3. p. 173. Mich. 2. p. 12. Pursh 2 p. 412.

Root creeping, perennial. *Stem* about 2 feet high, 4 angled, frequently branching. The lower *leaves* attenuated at base into a short petiole, obtuse, the upper ones narrow, almost linear. *Flowers* in vigorous plants paniculate. The *panicles* composed of simple opposite branching racemes. *Flowers* opposite. *Bractea* a leaf at the base of each peduncle, lanceolate, entire, longer than the peduncle and calyx. *Calyx* bilabiate, lips nearly equal, entire, the upper one furnished with a transverse appendage like a crest on its back. *Corolla* 2-lipped, villous, pale blue, spotted in the throat with white, the upper lip 3-cleft, the lateral segments small, slightly reflexed, the intermediate compressed, vaulted, emarginate, the lower lip shorter, 2 cleft, obtuse. *Stamens* shorter than the corolla. *Anthers* hairy. *Style* about as long as the stamens. *Stigmas* 2, acute. *Seed* globose dotted, 1, 2, or 3, frequently abortive.

This plant when young has frequently all of its leaves entire, in this state it is said to be the S. Hyssopifolia of Linnæus, it varies however so much not only in the leaf but in the size of the flower, as to make it doubtful whether two species are not yet included under this name. The name itself ought to be changed, Integrifolia is surely missapplied when given to a plant of which every mature leaf has its margin indented.

Grows in ditches and damp lands, very common along the sides of roads.

Flowers May—August.

2. Caroliniana. Lamark.

S. ramosa, glaberrima; foliis petiolatis, lineari-lanceolatis, acutis, integerrimis; racemis laxis, foliosis; calycibus obtusis. Lam. encyc. 7. p. 706.	Branching, glabrous; leaves on petioles, linear lanceolate, acute, entire; racemes loose, leafy; calyx obtuse.

Pursh 2. p. 412.

With this plant I am unacquainted. Mr. Nuttall hints that it is probably a smooth variety of the preceding species. But Lamark must have possessed at least good specimens of the plant, since he published a figure of it. And no one can doubt that many unknown plants, particularly among the small and herbaceous species are still concealed in our forests.

Grows in Carolina. Fraser.

Flowers.

3. SERRATA.

S. ramosa, pubescens; foliis ovatis, acuminatis, serratis, breviter petiolatis; racemis terminalibus, laxifloris, plerumque paniculatis; bracteis lanceolatis, brevibus.

Branching, pubescent; leaves ovate, acuminate, serrate, on short petioles; racemes terminal, loosely flowered, frequently paniculate; bracteas lanceolate, short.

Pursh 2. p. 413.

Stem erect, tall, 4 angled, and with the whole plant minutely pubescent. *Leaves* sometimes oval, very acute at base, dotted on the under surface, on petioles about half an inch long, acuminate, and the serratures on the lower leaves frequently rounded. *Flowers* distant on the racemes, large, pale blue. *Stamens* shorter than the corolla.

Grows in fields and meadows. Virginia and Carolina. (Pursh.) Not common along the sea coast.

Flowers June—September.

4. VILLOSA. E.

S. caule erecto, ramoso, villoso; foliis majusculis, lanceolatis, utrinque acutis grosse dentatis, subtus villosis, supra sub hispidis; racemis paniculatis, confertifloris. E.

Stem erect, branching, villous; leaves large, lanceolate, acute at each end, coarsely toothed, villous underneath, hispid above; racemes paniculate, with the flowers crowded.

Stem firmly erect, 2—3 feet high, very villous, almost tomentose. *Leaves* large, 3—4 1-2 inches long, 2 wide, exactly lanceolate, the under surface, particularly along the veins, villous, the upper hairy and somewhat hispid, supported by petioles about half an inch long. *Panicle* composed of opposite, brachiate racemes. *Bracteas* lanceolate, entire, with a long attenuated base, apparently longer than the calyx. The *Flowers* I have not seen, I suspect from the composition of the panicle they are not large.

Grows in Georgia between the Oakmulgee and Flint Rivers, along the road leading from Fort Hawkins to the Indian Agency.
Flowers May—July.

5. Pilosa. Mich.

S. pilosa; foliis remotis, ovatis, obtusis, rotundato crenatis rugosis, petiolatis, inferioribus subcordatis; racemis paniculatis, confertifloris; bracteis lanceolatis, integris.

Hairy; leaves distant, ovate, obtuse, crenate, rugose, on petioles, the lower slightly cordate; racemes paniculate, with the flowers crowded; bracteas lanceolate, entire.

Mich. 2. p. 11. Pursh 2. p. 413.
S. Caroliniana. Walt. p. 163.

Stem erect, generally about 18 inches high and tinged with purple. The lower *leaves* cordate and very obtuse, the upper ones ovate and nearly acute, all rugose, hairy and dotted on the under surface. The lower petioles an inch and a half long, the upper very short. The *calyx* hispid. *Corolla* nearly hispid on the outer surface glabrous within, almost white but tinged with violet at the throat and summit. *Anthers* very villous.

Grows in dry and somewhat fertile soils.
Flowers May—July.

6. Cordifolia. Muhl.

S. pubescens; foliis cordatis, obtuse dentatis, acutis, longe petiolatis; racemis oppositis terminalibusque, laxifloris, bracteis spa-

Pubescent; leaves cordate, obtusely toothed, acute, on long petioles; racemes opposite and terminal, loosely flowered;

thulato-ovatis, acutis acuminatisque.	bracteas spathulate ovate, acute and acuminate.

Muhl. Cat. p. 56.
S. Versicolor? Nutt. 2. p. 38.

Stem 2—3 feet high,pubescent. *Leaves* strictly cordate, acute, but not at all acuminate, somewhat rugose, pubescent or rather hairy on both surfaces, on petioles 1—3 inches long. *Bracteas* longer than the peduncle and calyx, abruptly attenuated at base, the lower ones acuminate, the upper simply acute. *Calyx* villous, tinged with purple. The upper lip of the *corolla*, bright bluish purple, the lower lip paler, almost white.

I have described this species from excellent specimens sent me by my friend Mr. Collins of Philadelphia.

Grows in Carolina. Muhl.
Flowers July—August.

7. LATERIFLORA.

S. ramosissima, glabriuscula; foliis longissime petiolatis, ovatis, dentatis, caulinis subcordatis; racemis lateralibus foliosis.	Branches very numerous, nearly glabrous; leaves on very long petioles, ovate, toothed, those on the stem slightly cordate; racemes lateral, leafy.

Sp. pl. 3. p. 172. Mich. 2. p. 11. Pursh 2. p. 412.

Stem about 2 feet high, square, glabrous, except at the angles, not furrowed as in all of the preceding species. *Leaves* ovate, very obtuse at base, acuminate, with the serratures very acute, the lower ones on moderately long petioles,the upper sessile. *Branches* very numerous,all terminating in leafy racemes and bearing also axillary racemes. *Calyx* nearly glabrous, smooth, the operculum or crest somewhat conical. *Flowers* very small, blue.

This is the species which has laterly acquired so much celebrity in the cure of Hydrophobia, but whose virtues I fear are more than doubtful.

Grows in the upper and mountainous districts of Carolina and Georgia.
Flowers June—September.

CALAMINTHA.

Calyx defloratus villis clausus. *Corolla* fauce inflata, labio superiore emarginato, inferiore tripartito; lacinia intermedia integra, subemarginata, aut crenulata.	*Calyx* after flowering closed with hair. Throat of the *corolla* inflated, the upper lip emarginate, the lower 3-parted, with the intermediate segment entire, slightly emarginate, or crenulate.

1. GRANDIFLORA.

C. suffruticosa; foliis ovatis, obtusis, crenatis, lævibus; verticillis multifloris, subpedunculatis, folio brevioribus.	Suffruticose; leaves ovate, obtuse, crenate, smooth; whorls many flowered, on short peduncles, shorter than the leaves.

Pursh 2. p. 414. Nutt. 2. p. 39.
Thymus Carolinianus. Mich. 2. p. 9

A small suffruticose plant, growing from 12—18 inches high, the stem round and a little pubescent. *Leaves* slightly toothed, somewhat ribbed, dotted. *Flowers* in opposite dichotomous clusters. *Peduncles* about as long as the calyx. The *calyx* tubular, ribbed, glabrous, the upper lip 3-toothed, the lower 2-cleft, the throat of the calyx closed with hair. *Corolla* pale rose colour, spotted on the lower lip with purple, pubescent, the tube longer than the calyx, the upper lip erect, slightly emarginate, the segments of the lower obtuse, equal. *Stamens* shorter than the corolla. *Anthers* two lobed, somewhat crescent shaped, hollow and purple at each summit. *Styles* longer than the stamens *Stigmas* two, acute.

Grows in the drift sand along the margins of rivers, in the middle and upper country, abundant near Columbia, S. C.

Flowers June—August.

CERANTHERA. E.

Calyx bilabiatus, labio superiore emarginato, inferiore bifido.	*Calyx* two lipped, the upper lip emarginate, the lower 2-cleft.

Corollæ labium superius 2-lobum, inferius 3-partitum. *Stamina* exserta distantia. *Antheræ* incumbentes utrinque aristatæ.

Upper lip of the *corolla* 2-lobed, the lower 3-parted. *Stamens* distant, exserted. *Anthers* incumbent, awned at each end.

1. Linearifolia.

Root annual. *Stem* about a foot high, glabrous, branching. *Leaves* opposite, linear, dotted, about an inch long, sometimes clustered. *Flowers* in terminal racemes, peduncles opposite, generally 2-flowered. *Calyx* striate, dotted, minutely pubescent at the summit, generally tinged with purple, upper lip short, segments of the lower lip acuminate. *Corolla* glabrous, twice as long as the calyx, of a pale pink colour, beautifully spotted with violet, tube small, throat inflated, the upper lip rather longer than the lower. *Stamens* four, distant, longer than the corolla. *Anthers* 2-lobed, lying horizontally on the summit of the filaments, terminating at each point with an awn rather longer than the anther itself. *Style* longer than the stamens, minutely hispid. *Stigmas* 2, equal, acute. *Seeds* four, oval. Grows abundantly in the high pine barren ridges between the Flint and Chatahouchie rivers.

Flowers September and October.

TRICHOSTEMA. Gen. Pl.

Corollæ labium superius falcatum. *Stamina* longissima.

Upper lip of the *corolla* falcate. *Stamens* very long.

1. Dichotoma.

T. foliis ovato-lanceolatis, pubescentibus; staminibus longissimis.

Leaves ovate lanceolate pubescent; stamens very long.

Sp. pl. 3. p. 170. Walt. p. 164. Mich. 1. p. 10. Pursh. 2. p. 414.

Annual. *Stem* erect, 1-2 feet high, four angled, with the angles rounded, branching. *Leaves* opposite acute at base, rather obtuse at the summit, entire, cloathed with a very soft pubescence. *Flowers* in dichotomous panicles, solitary in the divisions of the branches. *Peduncles* about half an inch long with the calyx almost hispid. *Calyx* somewhat two lipped and ribbed, the upper lip much larger, 3 cleft, the lower small, 2 cleft. *Corolla* 2 lipped, of a deep bright blue, the tube very short, the upper lip 2 cleft with the segments somewhat falcate, the lower 3 cleft. *Filaments* unequal, four times as long as the corolla, incurved and with the style of a deep bright blue. *Style* nearly as long as the stamens. *Stigmas* 2, obtuse. *Seeds* 4, nearly round, slightly rugose.

Grows in dry soils, very common in old pastures.

Flowers July—September.

2. Linearis. Walter.

T. foliis linearibus, glabris, sessilibus, utrinque acutis; dentibus calycis aristatis; staminibus longissimis. Nuttall.	Leaves linear, glabrous, sessile, acute at each end; teeth of the calyx awned; stamens very long.

Walter, p. 164. Nutt. 2. p. 39.
T. dichotoma, Var. linearis. Pursh 2. p. 414.

This species resembles the preceding very much in habit and in its flowers, it appears however to be sufficiently distinct; Mr. Nuttall remarks that it is always smaller, the leaves invariably smooth and rather thick, while the rest of the plant is covered with a viscid pubescence, and that the teeth of the calyx are conspicuously awned.

Grows like the preceeding in dry soils, more common in the middle and upper country of Carolina than along the sea coasts.

Flowers July—September.

ANGIOSPERMIA.

PHRYMA.

Calyx cylindricus, supra longior, trifidus,	*Calyx* cylindrical, upper lip longer, 3-

infra bidentatus. *Corollæ* labium superius emarginatum, inferius majus. *Semen* unicum.

cleft, the lower one 2-toothed. Upper lip of the *corolla* emarginate, much smaller than the lower. *Seed* one.

1. LEPTOSTACHYA.

Sp. pl. Walt. p. 166. Mich. 2. p. 16. Pursh 2. p. 415.

Root perennial. *Stem* herbaceous, erect, about a foot high, sparingly branched and with the whole plant very pubescent. *Leaves* opposite, spathulate ovate, acute, toothed, the lower ones on petioles about an inch long. *Flowers* opposite on an erect simple terminal spike. *Bracteas* three at the base of each flower, subulate, persistent, half as long as the calyx. *Calyx* after flowering reflected, closely appressed to the stem, tubular, 5 ribbed, 2 lipped, the upper lip with three setaceous segments, the lower lip longer, 2 cleft. *Corolla* somewhat tubular, two lipped, white tinged with purple, the upper lip short, obtusely two toothed, the lower one larger, 3 lobed. *Seed* one.

Grows in shady light rich soils.

Flowers June to September.

VERBENA. GEN. PL.

Calyx 5-fidus. *Corolla* infundibuliformis, tubo incurvo, limbo inæquali, 5-fido. *Semina* 2—4.

Calyx 5-cleft. *Corolla* funnel shaped, with the tube curved and the border unequal, 5-cleft. *Seeds* 2—4.

1. AUBLETIA.

V. assurgens; spicis solitariis pedunculatis, imbricatis; corollarum laciniis emarginatis; foliis ovalibus, inciso serratis, dissectisque, petiolatis.

Assurgent; spikes solitary, imbricate, on long peduncles; segments of the corolla emarginate; leaves oval, deeply serrated, and divided on petioles.

Sp. pl. 1. p. 119. Michaux 2. p. 13. Pursh 2. p. 415.
Anon. Caroliniensis. Walter p. 164.

Root perennial. *Stem* creeping, throwing out roots and offsets, finally assurgent, four angled and with the whole plant hairy. *Leaves* opposite, ovate, lanceolate, somewhat 3-lobed, with the lobes notched and toothed, dotted on the upper surface, tapering at base to a slightly winged petiole about an inch long. *Flowers* in terminal spikes so crowded that when flowering they resemble a corymb, bracteas linear at the base of each flower, about half as long as the calyx. *Calyx* angled with the border 5 cleft, segments setaceous, unequal. *Corolla* somewhat hypocrateriform, purple, tube nearly twice as long as the calyx, enlarged at the summit and cloathed with hair, border 5 cleft, expanding. *Filaments* very short in the tube of the corolla, the longer pair very villous. The *Style* as long as the tube. *Stigma* obliquely capitate. *Seeds* four, oblong, dotted.

Grows in the dry pine barrens of the middle country of Carolina and Georgia.
Flowers April—September.

2. SPURIA.

V. caule decumbente, ramosissimo, divaricato; foliis multifido laciniatis, spicis filiformibus; bracteis calyce superantibus.	Stem decumbent, branching, divaricate; leaves laciniate, much divided; spikes filiform; bracteas longer than the calyx.

Sp. pl. 1. p. 119. Mich. 2. p. 14. Pursh 2. p. 416.

Nearly glabrous. *Stem* angled. *Leaves* sessile, deeply laciniate, somewhat pinnatifid, tapering at base, segments serrate, acute. *Spikes* somewhat paniculate. *Flowers* at first crowded, afterwards by the elongation of the stem distinct and scattered. *Corolla* small, purple.
Grows in Carolina. Muhl.
Flowers.

3. HASTATA.

V. erecta, elatior; foliis lanceolatis, acuminatis, insciso serratis, nonnullis insciso-hastatis; spicis linear-	Erect, tall; leaves lanceolate, acuminate, sharply serrate, sometimes notched and hastate; spikes line-

ibus, paniculatis, subimbricatis.

ar, paniculate, somewhat imbricate.

Sp. pl. 1. p. 118. Mich. 2. p. 14. Pursh 2. p. 416.

Perennial. *Stem* 2—4 feet high, pubescent or hairy. *Leaves* generally lanceolate and acuminate, the lower or early leaves have frequently lateral lobes and become hastate, but this is not the general character of the plant, all the leaves somewhat rugose and a little hairy particularly on the under surface. *Spikes* linear, short. *Bracteas* ovate, acuminate, rather shorter than the calyx. *Corolla* small, purple. *Stamens* and *Styles* much shorter than the corolla.

Grows in the middle country of Carolina and Georgia, generally in dry soils.
Flowers July—August.

4. PANICULATA. Lamark.

V. erecta, scabriuscula; foliis lanceolatis grosse serratis, indivisis; spicis filiformibus, imbricatis, corymboso paniculatis.

Erect, scabrous; leaves lanceolate, coarsely serrate, undivided; spikes filiform, imbricate, forming a corymbose panicle.

Pursh 2. p. 416.

Stem 4—6 feet high, with the whole plant scabrous and hairy, almost hispid. *Leaves* long, lanceolate, very acutely serrate. *Spikes* numerous near the summit of the stem, linear. *Bracteas* subulate, shorter than the calyx. *Flowers* small, purple.

Grows among the mountains of Carolina. Pursh.
Flowers July—August.

5. URTICIFOLIA.

V. erecta, subpubescens; foliis ovatis, acutis, serratis, petiolatis; spicis filiformibus,

Erect, somewhat pubescent; leaves ovate, acute, serrate, petiolate; spikes fili-

distinctifloris, axillaribus terminalibusqne.	form, axillary and terminal, with the flowers distinct.

Sp. pl. 1. p. 119. Walt. p. 162. Mich. 2. p. 15. Pursh. 2. p. 416.

Perennial. *Stem* herbaceous, 2—3 feet high, 4 angled, hairy, almost hispid, with many slender branches. *Leaves* opposite, scabrous, covered with short rigid hair, abruptly narrowed at base. *Bracteas* subulate, shorter than the calyx. Teeth of the calyx equal. *Corolla* small, bearded in the throat, white, tinged with purple, the border 5-cleft, segments oval, nearly equal. *Stamens* shorter than the tube of the corolla, in which they are inserted. *Style* as long as the stamens. *Stigma?* globose, seated in the division of the style. *Seeds* 4, somewhat united at the inner angles.

Grows in damp soils; very common.
Flowers July—October.

6. STRICTA. Willd.

V. caulibus rigide erectis; foliis sessilibus, obovatis, serratis, subtomentoso-hirsutissimis, albicantibus; spicis strictis, imbricatis, subfasciculatis.	Stems rigidly erect; leaves sessile, obovate, serrate, very hirsute, hoary; spikes straight, imbricate, clustered.

Pursh, 2. p. 417.
V. Rigens. Mich. 2. p. 14.

Spikes straight long pubescent. *Corolla* large, pale blue. Michaux.

With this plant I am unacquainted, it is inserted here on the somewhat doubtful authority of Pursh.

Grows in Carolina and the Illinois country.
Flowers July and August.

7. CAROLINIANA.

V? erecta, scabra; foliis oblongo-obova-	Erect, scabrous; leaves oblong, obo-

tis obtusis, inæqualiter serratis, basi attenuatis, subsessilibus; spicis longissimis, filiformibus, distinctifloris.	vate, obtuse, unequally serrate, tapering at base, nearly sessile; spikes very long, filiform, with the flowers distinct.

Sp. pl. 1. p. 119. Mich. 2. p. 14. Pursh. 2. p. 417.
Phryma Caroliniensis.

Stem about two feet high, simple, four angled, scabrous, hairy and with the calyx viscid. *Leaves* acutely and irregularly serrate, sometimes slightly lobed, the interior obtuse, the upper ones acute, rugose, the veins pellucid. *Bracteas* subulate, shorter than the calyx. *Calyx* tubular, teeth unequal. *Corolla* twice as long as the calyx, pale purple, hairy within, the border 4 cleft, somewhat two lipped, the upper segment short, wide and emarginate, the three lower oval. *Filaments* very short. *Anthers* almost sessile in the tube of the corolla. *Style* very short, with a lateral tooth, beneath the capitate stigma. *Capsule?* very hard, almost a nut, oblong, 4 celled, not opening. Can this be called a naked seed with four cells?

This plant has entirely the appearance of a Verbena; by its corolla and seed it differs from that genus. I have little doubt from its fruit that it is the plant Walter intended by the Phryma Caroliniensis.

Grows in dry soils, common.
Flowers May—July.

ZAPANIA. Scopoli.

Flores capitati. *Calyx* 5 dentatus? *Corolla* 5 fida. *Stamina* 4-fertilia. *Stigma* peltato-capitatum, obliquum. *Fructus* tectus; utriculus evanescens nectens semina 2.	*Flowers* capitate. *Calyx* 5 toothed? *Corolla* 5-cleft. *Stamens* 4, fertile. *Stigma* capitate, oblique. *Fruit* covered, an evanescent utriculus connecting the seeds.

1. NODIFLORA.

Z. foliis obovatis, cuneiformibus, superne serratis; spicis capitato-conicis, solitariis, elongato-pedunculatis; caule herbaceo repente.

Leaves obovate, cuneate, serrate near the summit; spikes solitary, on long peduncles, forming conical heads; stem herbaceous, creeping.

Pursh 2. p. 417.
Verbena nodiflora. Sp. pl. 1. p. 117.
Anon. repens. Walt. p. 160.
Lippia nodiflora. Mich. 2. p. 15.

Stem procumbent, branching, creeping, somewhat scabrous. *Leaves* opposite, glabrous, attenuated at base to a very short petiole. *Flowers* closely imbricated in small oval or cylindric heads, on axillary peduncles, 4—6 inches long. *Bractea* broad, ovate, with a short point scarious and purple along the margin. *Calyx* two leaved, compressed, persistent, much smaller than the bractea, white and hairy along the back. *Corolla* white, small, the tube as long as the bracteas, border 2 lipped, the upper small, emarginate, reflexed, the inferior 3-cleft. *Stamens* very short in the tube of the corolla. *Style* very short. *Stigma* capitate. The *fruit* somewhat compressed, divisible, covered with a persistent bractea and calyx. *Seeds* 2.

I have described this plant as it appears to me. It will be perceived that my description, in some respects, and especially in the calyx, does not agree with the commonly received character.

Grows in almost all soils, prefering those that are damp.

Flowers through the whole summer.

2. LANCEOLATA.

Z. foliis lineari-lanceolatis argute serratis; spicis capitato-conicis, solitariis, elongato pedunculatis; caule herbaceo, repente.

Leaves linear lanceolate, acutely serrate; spikes solitary, on long peduncles, forming conical heads; stem herbaceous, creeping.

Pursh 2. p. 418.
Lippia lanceolata, Mich. 2. p. 15.

Excepting in the leaf I have been able to see no difference between this and the preceding species. The leaves are more strictly lanceolate and more acutely serrate. Its character after all is obscure.

Grows in Carolina near Ashley River. Mich.

Flowers through the Summer.

LANTANA. Gen. Pl. 1026.

Flores capitati. *Calyx* obsolete-4-dentatus. *Corollæ* limbus 4-fidus, inæqualis; fauce pervia. *Stigma* uncinato refractum. *Drupa* nuce biloculari lævi.	*Flowers* capitate. *Calyx* obtusely 4-toothed. Border of the *corolla* 4-cleft, unequal, with the throat open. *Stigma* refracted, hooked. *Drupe* containing a smooth, 2-celled nut.

1. Camara.

L. foliis oppositis, ovato lanceolatis, crenato-serratis, scabris; caule inermi, asperato; floribus capitato umbellatis, aphyllis. E.	Leaves opposite, ovate lanceolate, crenate and serrate, scabrous; stem rough, not prickly; flowers in umbellate heads, without leaves.

Sp. pl. 3. p.
Pluk. alm. t. 114. f. 4.

A shrub 2-4 feet high, branching. *Stem* square, not prickly but always rough. *Leaves* opposite, scabrous on both surfaces, a little rugose, pubescent along the veins, tapering at base to a short petiole. *Peduncles* axillary, opposite, about 2 inches long, thickened towards the summit. *Flowers* numerous in each head. *Bracteas* subulate, longer than the calyx. *Corolla* bright yellow or orange color. *Stamens* included in the tube of the corolla. *Drupes* globular, forming a very compact head of a dark blue color when ripe.

The roots of this flower were sent to me from St. Mary's by Dr. Baldwin. I am uncertain however, whether they were collected in Georgia or Florida.

Flowers June—November.

HERPESTIS. Gaertner.

Calyx 5-phyllus, inæqualis. *Corolla* tubulosa, subbilabiata. *Stamina* inclusa. *Capsula* bivalvis, 2-locularis, dissessimento valvis parallelo.

Calyx 5-cleft, unequal. *Corolla* tubular, somewhat 2-lipped. *Stamens* included. *Capsule* 2-valved, 2-celled, with the partitions parallel with the valves.

* *Bracteis 2 ad basin calycis.*

* *Bracteas 2 at the base of the calyx.*

1. Cuneifolia.

H. glaberrima; foliis cuneato-obovatis, superne obsolete-subcrenatis; pedunculis folia subæquantibus; corolla quinquefida.

Very glabrous; leaves cuneate, obovate, obscurely crenate near the summit; peduncles as long as the leaves; corolla 5-cleft.

Pursh 2. p. 418.
Monniera cuneifolia. Mich 2. p. 22.

Root perennial. *Stem* prostrate, branching, creeping and with the whole plant very glabrous and succulent. *Leaves* opposite, sessile, somewhat amplexicaule. *Flowers* solitary, axillary, peduncles various in their length, generally shorter than the leaves. The three exterior leaves of the calyx broad, generally unequal among themselves, the two interior very narrow, acute. *Bracteas* 2, small, linear lanceolate, at the base of the calyx. *Corolla* nearly campanulate, pale purple, border 5 cleft, the segments oval, nearly equal and expanding. *Stamens* very short in the tube of the corolla. *Style* short. *Stigma* capitate. *Seeds* numerous, slightly reticulate, attached to a central receptacle.

Grows on sandy shores that are occasionally overflowed by salt-water. Flowers May—October.

*** Bracteis nullis.*

*** Bracteas wanting.*

2. RUTUNDIFOLIA.

H. minutim pubescens; foliis subovali-orbiculatis, multinervibus; pedunculis passim oppositis folia subæquantibus; corolla quadrifida.

Finely pubescent; leaves oval, nearly round, many nerved; peduncles opposite, as long as the leaves; corolla 4-cleft.

Pursh 2. p. 418.
Monniera rotundifolia. Mich. 2. p. 22.

I have specimens collected in this State agreeing exactly with the H. rotundifolia. excepting in the length of the peduncle, a character somewhat variable in this genus. *Stem* procumbent creeping and finally assurgent, hairy, the hairs pellucid and jointed *Leaves* nearly orbicular, slightly serrulate, a little hairy, leaves half embracing the stem. *Peduncles* about half as long as the leaves, sometimes longer. The three outward leaves of the calyx large, the first almost leaf-like, the two interior subulate, very small. *Corolla* azure, the border 4-cleft, the segments obovate and emarginate. *Stamens* short, inserted between the segments of the corolla. *Anthers* sagittate. *Style* short, 2-cleft. *Stigma* simple. *Seed* oblong, truncate, dotted.

Grows along the margin of ponds in wet soils in the middle country of Carolina and Georgia.

Flowers July—September.

3. AMPLEXICAULIS.

H. caulibus lanatis; foliis cordato-ovalibus, amplexicaulibus, integris, obtusis, pedunculis folio brevioribus; corolla quadrifida.

Stem woolly; leaves cordate, embracing the stem, entire, obtuse; peduncles shorter than the leaves; corolla 4-cleft.

Pursh 2. p. 418.
Monniera amplexicaulis. Mich. 2. p. 22.
Obolaria caroliniana. Walt. p. 166.

To this plant the description of the preceding will apply almost entirely. The *Leaves* are narrower, less nerved and denticulate, but merely in proportion to their size. The *Peduncles* are shorter, and Mich. remarks that the *corolla* is larger. These two species require to be further examined. They differ in appearance very much from the plants with which they are associated—they are both very fragrant, particularly when bruised, so that you can discover them when riding through the grounds in which they grow by the aromatic odour which they exhale under the hoofs of your horses. In this respect they differ very much from the insipid earthy smelling species of Gratiola, Lindernia and other plants to which they are allied. They will perhaps constitute a distinct genus.

From character and from tradition I can have no hesitation in referring to this plant the Obolaria Caroliniana of Walter—with the Obolaria Virginica he appears to have been unacquainted.

Grows in the pine barren ponds of the middle country, rare in the immediate neighbourhood of the ocean.

Flowers July—September.

4. MICRANTHA.

H. glabra, succulenta; foliis arcte sessilibus, ovatis ovalibusque, obtusis, integerrimis, striato-nervosis; pedunculis folio brevioribus; calyce 5-phyllo; stylo bifido.

Glabrous, succulent; leaves closely sessile, ovate and oval, obtuse, entire, nerved; peduncles shorter than the leaves; calyx 5-cleft; style 2-cleft.

Pursh 2. p. 418.
Gratiola repens? Sp. pl. 1. p. 103.

A small plant prostrate and creeping. *Leaves* sometimes nearly round, very glabrous, half embracing the stem. *Peduncles* axillary, short. The three outer leaves of the *Calyx* large, the two interior subulate. *Flowers* very small, white.

I neglected to notice,and my specimen will not now determine,whether the corolla is 4 or 5 cleft. The calyx however separates all of the plants placed in this genus, very distinctly from Lindernia.

Grows on the margins of fresh water rivers in soils subject to inundation. To me a rare plant, I have only met with it upon the banks of the Ogeechee river.

Flowers September—October.

SCROPHULARIA. GEN. PL. 1014.

Calyx 5-fidus. *Corolla* subglobosa, resupinata. *Capsula* 2-locularis.	*Calyx* 5-cleft. *Corolla* somewhat globose, resupine. *Capsule* 2-celled.

1. MARYLANDICA.

S. foliis cordatis, serratis, acutis, basi rotundatis; petiolis inferne ciliatis; paniculæ fasciculis laxe-paucifloris.	Leaves cordate, serrate, acute, rounded at base; petioles fringed near the base; branches of the panicle composed of loosely flowered clusters.

Sp. pl. 3. p. 209. Pursh 2. p. 419.
S. nodosa var. americana Mich. 2. p. 21.

Root perennial. *Stem* herbaceous, 2–4 feet high, very much branched, 4-angled, glabrous, but sprinkled near the summits of the branches with capitate hairs. *Leaves* opposite, ovate, lanceolate, rugose, a little hairy, the lower ones sometimes slightly cordate. *Flowers* in long compound terminal panicles, on pubescent peduncles. *Calyx* somewhat campanulate, 5-cleft, with the segments equal, erect. *Corolla* glabrous, greenish, tinged with purple; the tube globose, twice as long as the calyx, the border 5-cleft, with segments unequal, the four upper ones erect, the lower small, reflexed. A small spathulate purple appendage is attached to the tube of the corolla just below the base of the upper segment. *Stamens* longer than the tube of the corolla, the two longer ones appear to be later than the other two, in coming to maturity. *Filaments* hairy, dilated towards the summit. *Anthers* 1-celled, opening transversely. *Style* longer than the stamens. *Stigma* obtuse. *Capsule* ovate, somewhat compressed, opening at the summit. *Seeds* numerous, a little rough.

Grows in rich, shaded, loose soils.

Flowers August—October.

BIGNONIA. GEN. PL. 1018

Calyx 5-fidus, cyathiformis. *Corolla*	*Calyx* 5-cleft, cup-shaped. *Corolla* with

fauce campanulata, 5-fida, subtus ventricosa. *Siliqua* 2-locularis. *Semina* membranaceo-alata.	the throat campanulate, 5-cleft, bulging underneath. *Pod* 2-celled. *Seeds* winged with a membrane.

1. Capreolata.

B. foliis conjugatis cirrhosis, inferioribus ternatis, foliolis ovato-cordatis, acuminatis; racemis axillaribus; caule muricato.	Leaves conjugate, bearing tendrils, the lower ternate; leaflets ovate, cordate, acuminate; racemes axillary; stem roughened.

Sp. pl. 3. p. 296. Mich. 2. p. 25. Pursh 2. p. 419.
Bignonia crucigera. Walt. p- 169.

A vine, climbing over small trees and shrubs, but not adhering to them, *Leaves* opposite, conjugate, somewhat lanceolate but cordate at base, glabrous, entire, the margins and petiole sometimes coloured. *Peduncles* axillary, 1-flowered, sometimes many from each axil. *Calyx* obtusely 5-toothed. *Corolla* large, of an obscure red colour on the outer surface, yellow within, the segments obcordate. (*Capsule* flat, linear. Mich.)

Grows in dry soils.
Flowers March—April.

2. Radicans.

B. foliis pinnatis, foliolis ovatis, dentatis, acuminatis; corymbo terminali; tubo corollæ calyce tri-	Leaves pinnate, leaflets ovate, dentate, acuminate; corymbs terminal; tube of the corolla thrice as long

plo longiore; caule radicante.	as the calyx; stem radicant.

Sp. pl. 3. p. 301. Walt. p. 169. Mich. 2. p. 25. Pursh 2. p. 420.

A luxuriant ornamental vine, climbing over buildings and the loftiest trees, throwing out radicles all along the stem by which it attaches itself firmly to walls, fences or the bark of trees. *Leaflets* somewhat ribbed, smooth on the upper surface, pubescent underneath, particularly along the veins. *Flowers* in corymb like racemes, on peduncles about half an inch long. *Corolla* tubular, a little ventricose underneath, of a blood red colour, the inside tinged with yellow, the tube twice as long as the calyx, border 5-cleft, the segments nearly round and equal. *Stamens* nearly as long as the corolla, inserted in the tube, within which is perceptible the rudiment of a fifth filament. *Anthers* divaricate at base. *Style* as long as the stamens. *Stigma* compressed, flat. *Silique* very long, terete. *Seeds* winged.

Grows very common, preferring damp, rich soils.

Flowers June—September.

RUELLIA. Gen. Pl. 1050.

Calyx 5-partitus. *Corolla* subcampanulata, limbo 5-fido. *Stamina* conjugata. *Capsula* utrinque attenuata, dentibus elastice dehiscens. *Semina* pauca.	*Calyx* 5-parted. *Corolla* somewhat campanulate, with the border 5-cleft. *Stamens* conjugate. *Capsule* tapering at each end, toothed, opening elastically. *Seeds* few.

1. Strepens.

R. erecta, hirsuta; foliis petiolatis, lanceolato-ovatis, integerrimis; pedunculis 1—3 floris; calycis laciniis lineari-lanceolatis, a-	Erect, hirsute; leaves on petioles, lanceolate-ovate, entire; peduncles 1—3 flowered; segments of the calyx linear

cutissimis, hispidis, tubo corollæ brevioribus.	lanceolate, very acute, hispid, shorter than the tube of the corolla.

Sp. pl. 3. p. 363. Mich. 2. p. 24. Pursh 2. p. 420.
Anon. Caroliniensis. Walt.

Stem 18—20 inches high, 4-angled, and with the whole plant hairy. *Leaves* ovate and oval, lanceolate, entire, attenuated at base into a petiole half an inch long. *Flowers* axillary, generally 3 in each axil. The larger *Bracteal* leaves as long as the calyx, the lesser about half as long. *Calyx* 5-parted, linear lanceolate, the upper half almost setaceous, very hispid. *Corolla* pale blue, the tube longer than the calyx, the border somewhat campanulate, 5-parted, with the segments rounded, nearly equal. *Stamens* shorter than the corolla. *Style* longer than the stamens, slightly 2-cleft at the summit. *Stigmas* equal. *Seeds* few, (4, Walter.) in each cell of the elastic capsule.

I know not how Pursh could have called the segments of the calyx lanceolate, they are very accurately represented by Dill. Hort. Elth. T. 249. F. 321. excepting that in number 5 and 6 the setaceous points are not sufficiently extended, but in number 1 from which he derived the epithet Comosa, the representation is very accurate.

Grows generally in damp soils, may be found in great luxuriance in the high ridges in river swamps.
Flowers through the whole Summer, beginning in May.

2. Hirsuta. E.

R. hirsuta, ramosa ; foliis ovali-lanceolatis, sub acutis, sessilibus ; calycis laciniis subulatis, hispidis, tubum corollæ paulo superantibus. E.	**Hirsute, branching; leaves oval lanceolate, nearly acute, sessile, segments of the calyx subulate, hispid, a little longer than the tube of the corolla.**

Stem erect, 12 to 18 inches high, very obtusely 4-angled, sparingly branched, very hirsute. *Leaves* opposite, acute at each end, slightly undulate, almost hispid. *Flowers* generally one in each axil. Segments of the *Calyx* regularly subulate, rather longer than the tube of the corolla. *Corolla* pale blue. *Style* very long. Every part of the plant much smaller than in the preceding species.

I have introduced this plant, though not collected strictly within the limits of Georgia, on account of its close affinity to the R. hybrida of Pursh which Mr. Nuttall rejects as a var. of R. oblongifolia. To that plant however this species has no affinity.

Grows near the Alabama River in dry soils.

Flowers probably through the summer. Fouud in flower at the commencement of October.

3. Ciliosa. Pursh.

R. erecta, ramosa; foliis subsessilibus, ovato-oblongis, margine nervis venisque pilis albis longe ciliatis; bracteis lanceolatis, brevibus; calycis laciniis subulatis tubo corollæ quadruplo brevioribus. P. 2. p. 420.

Erect, branching; leaves nearly sessile, ovate oblong, with the margins, nerves and veins fringed with long white hair; bracteas lanceolate, short; segments of the calyx subulate, as long as one fourth of the tube of the corolla.

Described by Pursh from specimens collected in Georgia and principally near Savannah by Mr. Enslen. Distinguished, if the character should prove permanent, by the short segments of the calyx.

Flowers through the summer.

4. Oblongifolia. Mich.

R. repens, assurgens, pubescens; foliis sessilibus, obovatis ovalibusque, obtusis; floribus subsolitariis; calycis laciniis filiformibus, longitudine tubi corollæ.

Creeping, assurgent, pubescent; leaves sessile, obovate and oval, obtuse; flowers generally solitary; segments of the calyx filiform, as long as the tube of the corolla.

Mich. 2. p. 23. Pursh 2. p. 420.
R. biflora?

Root perennial, creeping. *Stem* about a foot high, obtusely 4-angled, occasionally branched. *Leaves* all obtuse, with a margin slightly undulate, the lower ones nearly round. *Calyx* with a short tube, the segments subulate, almost setaceous, hispid; in the former species the calyx is generally divided to the base. Border of the *Corolla* equally 5-cleft, slightly emarginate, pale blue or purple, spotted with a dusky yellow. *Stamens* shorter than the corolla. *Anthers* sagittate. *Germ* surrounded at base with an orange coloured glandular ring. *Style* a little longer than the stamens. *Stigmas* simple. *Seeds* few in each cell of the capsule.

The R. Biflora of Linnæus probably belongs to this species, I have omitted the name as evidently incorrect; the habit of the plant is to produce in the first instance one flower in each axil, if it grows luxuriantly two lateral opposite flowers are next produced, so that the axils are 1 or 3 flowered and may increase afterwards regularly by pairs. It may occasionally happen that one of the lateral buds will prove abortive, or one may shoot up and expand before the other, in either of these cases a biflorous specimen may be collected, but this is accidental and not the habit of the genus.

Grows in sandy pine barrens.
Flowers from May to the close of the summer.

5. Humistrata. Mich.

R. glabriuscula, diffusa, radicans; foliis in petiolum longiuscule angustatis, ovalibus, obtusis; floribus subsessilibus; capsulis linearibus.

Glabrous, diffuse, radicant; leaves attenuated at base into a long petiole, oval, obtuse; flowers nearly sessile; capsule linear.

Mich. 2. p. 23. Pursh 2. p. 421.

Found by Michaux in the Southern parts of Georgia. I have found no species exactly agreeing with the description.
Flowers probably through the whole summer.

The plants described under this head will undoubtedly belong to Ruellia, however the genus may be limited. In fact they agree so much among themselves, that it is difficult to find specific distinctions. But between the almost campanulate flower of the Ruellia and the bilabiate somewhat ringent, corolla of the Justicia, at least as the species are presented to us in this country, the difference is so great that nothing but the capsule appears to connect the two genera. See Smith's observations on RUELLIA in Rees' Cyclopœdia.

BUCHNERA. Gen. Pl. 1035.

Calyx 5-dentatus. *Corollæ* limbus 5-fidus, æqualis, lobis obcordatis. *Capsula* 5-locularis.	*Calyx* 5-toothed. Border of the *Corolla* 5-cleft, equal, with the lobes obcordate. *Capsule* 5-celled.

1. Americana.

B. caule simplici; foliis lanceolatis, subdentatis, asperis, trinervibus; spicis remotifloris.	Stem simple; leaves lanceolate, slightly toothed, rough, 3-nerved; spikes with the flowers remote.

Sp. pl. 3. p. 334. Walt. p. 169. Mich. 2. p. 18. Pursh 2. p. 421.

Perennial. *Stem* from 1—2 feet high, terete and with the whole plant scabrous and a little hairy. *Leaves* opposite, sessile. *Flowers* at first crowded on the spikes, becoming remote as the spike lengthens. *Bractea*, a leaf at the base of each flower, ovate, acute, nerved, with two lateral leaves smaller, linear-lanceolate. *Calyx* cylindrical, slightly incurved, nerved, with the border somewhat bilabiate, the upper lip 3-cleft, the lower 2-parted, the segments all erect, acute. *Corolla* hairy, purple, the tube twice as long as the calyx, and a little incurved, the two upper segments of the border rather smaller than the lower. *Stamens* very short, in the tube of the corolla. *Style* shorter than the stamens. *Stigma* obtuse. *Seeds* several in each cell of the capsule, furrowed, attached to a central receptacle.

Grows in damp pastures. Common.
Flowers from May to September.

ANTIRRHINUM. Gen. Pl. 1007.

Calyx 5-phyllus. *Corolla* calcarata, ringens, rictu clauso, palato prominente. *Cap-*	*Calyx* 5-leaved. *Corolla* bearing a spur, ringent, with the throat closed and the

sula 2-locularis, 2-valvis.

palate prominent. *Capsule* 2-celled, 2-valved.

1. CANADENSE.

A. assurgens, glabrum, simplicissimum; foliis sparsis, erectis, linearibus, obtusis; floribus racemosis; stolonibus procumbentibus.

Assurgent, glabrous, simple; leaves scattered, erect, linear, obtuse; flowers in racemes; suckers (or sterile branches) procumbent.

Sp. pl. 3. p. 255. Walt. p. 169. Mich. 2. p. 20. Pursh 2. p. 421.

The *Root* of this species appears in this country to be perennial, the whole plant glabrous, the sterile branches 4—6 inches long, procumbent, the fertile assurgent 12—18 inches long. *Leaves* dotted, by threes or verticillate on the sterile, alternate, but clustered at base on the fertile branches. *Calyx* deeply 5-parted? gibbous at the base; segments lanceolate, acute, pubescent. *Corolla* blue, tube short, the upper lip 2-cleft and reflexed, the lower larger, 3-cleft, the spur at base long, slender, subulate. *Stamens* short. *Style* shorter than the stamens. *Stigma* capitate. *Capsule* compressed, oval. *Seeds* angled, truncate, attached to a central receptacle.

Grows very common in almost all soils.
Flowers March—April.

GERARDIA. GEN. PL. 1004.

Calyx 5-dentatus. *Corolla* subcampanulata, inæqualiter quinquefida, laciniis rotundatis. *Capsula* 2-locularis, apice dehiscens.

Calyx 5-toothed. *Corolla* somewhat campanulate, unequally 5-cleft, with the segments round. *Capsule* 2-celled, opening at the summit.

1. Aphylla. Nuttall.

G. caule nudo, subsimplici, squamis oppositis, ovatis, parvulis, deciduis; corollis pedunculo longioribus.	Stem naked, nearly simple, with scales opposite, ovate, small, deciduous; corolla longer than the peduncle.

Nutt. 2. p. 38.

Annual. *Stem* about 3 feet high, erect, very sparingly branched. Very minute *leaves* are sometimes, but sparingly found. In their place, are minute, sphacelate scales. *Calyx* minutely 5-toothed. *Corolla* rather small. *Capsule* ovate, longer than the calyx. Nuttall. First discovered by Dr. Baldwin in E. Florida.

Grows sparingly along the coast as far as Wilmington, N. Carolina.

Flowers probably during the summer.

2. Plukenetii. E.

G. caule ramosissimo; foliis setaceis, glabris; floribus axillaribus terminalibusque; pedunculis folio brevioribus; calycis dentibus setaceis, brevissimis.	Stem much branched; leaves setaceous, glabrous; flowers axillary and terminal; peduncles shorter than the leaves; teeth of the calyx setaceous, very short.

Pluk. Phyt. T. 12. F. 4.

Stem erect, about 2 feet high, slightly angled, very much branched. *Leaves* scarcely an inch long, perfectly setaceous, incurved when dry. *Flowers* numerous near the summit of the branches, generally terminal, sometimes opposite and axillary. *Peduncles* about half as long as the leaves. *Calyx* truncate, with 5 minute, acute teeth. *Corolla* rather small for this genus, pubescent. *Capsule* globular, longer than the calyx.

This plant agrees minutely with the figure of Plukenet to which I have referred, and which is alluded to in Linnæus as a variety of his G. Purpurea.

Grows in wet spungy soils, very common between the Oakmulgee and Chatahouchie Rivers, and probably extends through the middle country of Carolina and Georgia.

Flowers August—October.

3. Setacea. Pursh.

G. caule ramosissimo; foliis setaceis, glabris; floribus terminalibus axillaribusque sparsis; pedunculis folio multo longioribus.

Stem much branched; leaves setaceous, glabrous; flowers terminal and axillary, scattered; peduncles much longer than the leaves.

Pursh 2. p. 422. Nuttall 2. p. 47.
G. erecta? Mich. 2. p. 20.

Apparently annual. *Stem* slender, about 2 feet high, slightly angled, glabrous. *Leaves* opposite, about an inch long, with the margins a little rough. *Peduncles* opposite and alternate, and as they frequently bear leaves and branches, they may all be considered as real branches bearing terminal flowers, but to the eye the upper ones resemble simple peduncles about 2 inches long. *Calyx* truncate, teeth subulate, small, acute. *Corolla* rather small, purple, white in the tube, with 2 yellow streaks, hairy, the border equally 5-cleft, segments rounded, fringed. *Filaments* shorter than the corolla, the longer pair villous. *Anthers* sagittate, very villous and as in all of this genus 2 cleft and mucronate at base. *Style* about as long as the stamens. *Stigma* thick, extending along the side of the style. *Capsules* ovate.

Grows in damp lands along the margins of swamps and dry galls.
Flowers August—October.

4. Fasciculata. E.

G. caule rigido, erecto, superne ramoso; foliis oppositis ternisque, interdum alternis, linearibus, fasciculatis, scaberrimis; floribus majusculis; pedunculis folio multo brevioribus.

Stem rigid, erect, branching near the summit; leaves opposite and by threes, sometimes alternate, linear, clustered, very scabrous; flowers large; peduncles much shorter than the leaves.

Root annual. *Stem* firmly erect, 3—5 feet high, marked with lines decurrent from the leaves, very scabrous. *Leaves* linear, acute, producing in each axil, small branchlets, with 8 or 10 small leaves, these towards the summit of the stem, become real branches. The *Leaves* and *Flowers* near the summit of the branches are sometimes alternate, but this is evidently accidental. The *Peduncles* are very short, rarely exceeding 2 lines in length. *Calyx* truncate, the teeth subulate, acute, longer than any other species in this division. *Corolla* as large as that of G. Purpurea., bright purple, hairy along the side of the tube, marked with 2 yellow streaks, spotted with red, the border equally 5-cleft, the two upper segments emarginate, reflexed and very villous, 3 lower pubescent and fringed. *Filaments* very villous, the 2 longer as long as the tube of the corolla. *Style* longer than the corolla. *Stigma* obtuse. *Seeds* very numerous and small, attached to a central receptacle.

Grows principally in lands subject to occasional inundation from the ocean—on Eding's Island near Beaufort very common.

Flowers August—October.

5. FILIFOLIA. Nuttall.

G. caule tereti, ramoso; foliis filiformibus, subfasciculatis, glabris, alternis; calycis laciniis acute dentatis; pedunculis folio longioribus. Nutt. 2. p. 48.	Stem terete, branching; leaves filiform, somewhat clustered, glabrous, alternate; segments of the calyx acutely toothed; peduncles longer than the leaves.

Leaves filiform, about an inch long, nearly terete, smooth and very slender, collected in axillary clusters. *Flowers* purple, as large as those of G. Purpurea. Orifice of the *Corolla* pubescent and ventricose. *Peduncles* nearly an inch and a half long. Nuttall.

This species has a close affinity to the preceding, but its smooth leaves and long peduncle render it sufficiently distinct. The leaves perhaps are only accidentally as in the preceding species alternate.

Found by Dr. Baldwin near St. Mary's and along the coast of E. Florida.

Flowers probably from August to October.

6. PURPUREA.

G. caule ramosissimo; foliis linearibus, utrinque acutis, sca-	Stem much branched; leaves linear, acute at each end, ve-

berrimis; floribus majusculis, subsessilibus; calycis dentibus subulatis, brevibus, acutis.	ry scabrous; flowers large, nearly sessile; teeth of the calyx subulate, short, acute.

Sp. pl. 3. p. 221. Walt. p. 170. Mich. 2. p. 19. Pursh 2. p. 422.
Icon. Pluk. Mant. T. 388. F. 1.

Root annual? *Stem* 2—4 feet high, scabrous and very much branched. The *Leaves* sometimes nearly 2 inches long by 1 1-2 lines wide, larger and more linear lanceolate than in any of the preceding species. *Corolla* large, pubescent, bright purple. *Peduncles* rarely more than 2 lines in length. *Anthers* scarcely as long as the tube of the corolla. *Style* longer than the stamens.

This species differs from G. Fasciculata in its habit which is more diffuse and spreading, and by its leaves which are larger and more distinctly linear lanceolate, though still very narrow and not fasciculate. From all the other species it is sufficiently distinct.

Grows in damp soils, very generally diffused.
Flowers August—October.

7. TENUIFOLIA.

G. caule ramosissimo, lævi; foliis linearibus, utrinque acutis, lævibus; floribus parvulis; calycis dentibus parvis, acutis; pedunculis folio paulo brevioribus.	Stem much branched, smooth; leaves linear, acute at each end, smooth; flowers small; teeth of the calyx small, acute; peduncles a little shorter than the leaves.

Sp. pl. 3. p. 222. Pursh 2. p. 422. Nutt. 2. p. 47.

Stem very much branched, diffuse, about 2 feet high, four angled, nearly smooth. *Leaves* about 1 1-2 inches long, acute at each end and smooth, except along the margins. *Peduncles* about an inch long, a little shorter than the leaves but longer than the corolla. Teeth of the *calyx* very minute. *Corolla* ventricose, scarcely an inch long, pubescent. The border equally 5-cleft, segments ciliate, purple. The tube nearly white, marked with two yellow streaks speckled with purple. The 2 longer filaments and all the

Anthers very villous. The 2 shorter filaments only hairy at the base. *Style* as long as the stamens. *Stigma* compressed.

This species resembles the G. Purpurea in the size and form of its leaves, but differs by its smoothness, and very widely in its corolla and peduncle.

The plants I have examined, appear also to differ in many respects from the G. Tenuifolia of Nuttall, perhaps many species remain yet to be distinguished.

Grows in dry sandy soils, about 2 miles from Beaufort on the Battery road, to me very rare.
Flowers August—October.

8. LINIFOLIA. Nuttall.

G. caule tereti, virgato; foliis linearibus, acutis, lævibus, appressis; calyce truncato, denticulato; corolla majuscula, extus pubescente, intus villosa; pedunculis folio paulo brevioribus.	Stem terete, virgate; leaves linear, acute, smooth, appressed; calyx truncate, denticulate; corolla large, pubescent without, villous within; peduncles a little shorter than the leaves.

Nuttall 2. p. 47.
Anon. Erect? Walt. p. 170.

Root perennial, creeping, Nutt. *Stem* 2—3 feet high, virgate, with slender, erect, twiggy branches. *Leaves* as in the two preceding species very narrow, linear lanceolate, in general closely appressed to the stem. *Peduncles*, during the expansion of the flower, shorter than the leaves, before the capsules ripen as long or longer. *Calyx* very minutely 5-toothed. *Corolla* large, purple. *Stamens* about half as long as the corolla. *Style* as long as the stamens. *Stigma* acute.

This species is very remarkable by its erect virgate branches, Its leaves in general are not SHORTER than the peduncles, yet if it it is not the G. Erecta of Walter that species remains to be detected.

Grows in and around pine barren ponds.
Flowers August—September.

9. CUNEIFOLIA.

G. paniculato-ramosa, ramis erectis; foliis cuneato-lanceolatis, inæqualiter serratis, superioribus alternis; pedunculis axillaribus, folio longioribus; calycibus 5-partitis.	Branching; branches erect; leaves cuneate, lanceolate, unequally serrate, the upper ones alternate; peduncles axillary, longer than the leaves; calyx 5-parted.

Pursh 2. p. 423.

Described by Pursh from specimens in the Herbarium of Sir J. Banks, collected in Georgia by Bartram.

With this plant I am unacquainted, and I think it probable as suggested by Mr. Nuttall that it does not belong to this genus.

** *Floribus flavis.*	** *Flowers yellow.*

10. FLAVA.

G. pubescens; caulibus subsimplicibus; foliis lanceolatis, integerrimis vel dentatis, inferioribus subpinnatifido-incisis; floribus axillaribus, oppositis, subsessilibus.	Pubescent; stem generally simple; leaves lanceolate, entire or dentate, the lower ones notched and pinnatifid; flowers axillary, opposite, nearly sessile.

Sp. pl. 3. p. 223. Walt. p. Mich. 2. p. 19. Pursh 2. p. 423.

Perennial. *Stem* rarely more than 2 feet high, obtusely 4-angled, pubescent, simple or but sparingly branched. Lower *leaves* sometimes deeply serrate, all attenuated at base to petioles of various lengths, generally very short. *Flowers* on very short peduncles. Segments of the *calyx* subulate, nearly as long as the tube. *Corolla* large, yellow.

I have not been accustomed to see this plant in its living state and therefore cannot point out with satisfaction to myself the distinction between this and the succeeding species. They differ much in size and perhaps in pubescence, and the leaves of this species are, I think, thinner in substance and the laciniate leaves less dentate than those of G. Quercifolia. The petioles and peduncles afford no certain character. I have for the present used Pursh's description of this species though dissatisfied with it.

Grows in dry shaded and rocky soils—found in the upper and mountainous districts of Carolina and Georgia.
Flowers July—September.

11. Quercifolia. Pursh.

G. glabra; caule erecto, ramosa; foliis petiolatis, pinnatifidis, summis lanceolatis, integerrimis, scabriusculis; floribus axillaribus, oppositis, pedicellatis; calycis laciniis sublanceolatis, tubum æquantibus.

Glabrous; stem erect, branching; leaves on petioles, pinnatifid, the upper lanceolate, entire, slightly scabrous; flowers axillary, opposite, on pedicels; segments of the calyx somewhat lanceolate, as long as the tube.

Pursh 2. p. 423.
G. Heterophylla. Muhl. Cat.
Rhinanthus Virginica. Sp. pl. 3. p. 191.

Root perennial, creeping. *Stem* firmly erect, 3—6 feet high, branching, obtusely angled, purple, glabrous except near the summit. Upper *leaves* lanceolate, acute, slightly mucronate, with translucent veins, the upper surface and margins slightly scabrous, the lower leaves pinnatifid, the segments acute and toothed, and somewhat scabrous on both surfaces. *Peduncles* about 3 lines long. *Calyx* when young, pubescent, when old glabrous. *Corolla* about 2 inches long, ventricose, yellow, hairy on the inner surface, the border equally 5 cleft. *Filaments* nearly as long as the corolla, very villous at base, the long pair fringed along the back. *Anthers* hairy, bifid, and awned at base. *Style* as long as the stamens. *Stigma* obtuse. *Capsule* a little compressed at the summit.

This is probably the G. flava of Walter.

Grows in dry rich soils, very common.
Flowers from May to September.

12. Pedicularia.

G. villosa, ramosissima; foliis oblongis duplicato-inciso serratis, pinnatifidisque; floribus axillaribus oppositis pedicellatis; calycis laciniis foliaceis inciso-dentatis.

Villous, much branched; leaves oblong, doubly notched, serrated and pinnatifid; flowers axillary, opposite on pedicels; segments of the calyx leaflike, notched and toothed.

Sp. pl. 3. p. 223. Walt. p. 170. Mich. 2. p. 19. Pursh 2. p. 424.

Root apparently annual. *Stem* 2—3 feet high, branching from its base, terete, purple, and with the whole plant viscid and clothed with very soft and dense pubescence. *Leaves* sessile, opposite, variously dissected. *Peduncles* about half an inch long. Segments of the *Calyx* foliaceous, incised and serrate. *Corolla* large, yellow, villous on the outside. *Stamens* shorter than the corolla, villous. *Style* longer than the stamens. *Stigma* obtuse. *Capsule* slightly compressed at the summit. *Seeds* numerous, very small, attached to a central receptacle.

Grows in dry sandy pine barrens, common in such situations.
Flowers July—September.

SEYMERIA. Pursh.

Calyx profunde 5-partitus. *Corolla* campanulata, sub æqualiter 5-fida. *Filamenta* 4, brevia, sub æqualia, fauce inserta. *Antheræ* biloculares, poris apice dehiscentes. *Capsula* ventricoso-ovata, 2-valvis,

Calyx deeply 5-parted. *Corolla* campanulate, equally 5-cleft. *Filaments* 4, short, nearly equal, inserted in the throat of the corolla. *Anthers* 2-celled, opening through pores at the summit. *Capsule* o-

2-locularis apice dehiscens.

vate, ventricose, 2-valved, 2-celled, opening at the summit.

1. TENUIFOLIA. Pursh.

S. glabriuscula, ramosissima; foliis composite pinnatifidis, laciniis oppositis alternisque, filiformibus; corolla sub rotata; capsulis glabris.

Glabrous, profusely branched; leaves compoundly pinnatifid, with the segments opposite and alternate, filiform; corolla somewhat rotate; capsules glabrous.

Pursh 2. p. 737. Nuttall 2. p. 50.
Gerardia Afzelia. Mich. 2. p. 20.
Afzelia Cassioides. Gmel. Sys. Nat.
Anonymos Cassioides. Walt. p. 171.

Root annual? *Stem* 3—4 feet high, with numerous brachiate branches, terete, rough. *Leaves* opposite, sessile, about an inch long, compoundly pinnatifid. *Flowers* near the summit of the branches axillary, opposite, on peduncles about an inch long. *Calyx* somewhat campanulate, the segments subulate, about twice as long as the tube. *Corolla* about half an inch long, of an obscure yellow, sprinkled in the throat with purple, pubescent, the border 5-cleft. *Filaments* villous at base, rather shorter than the corolla. *Anthers* incumbent, yellow, opening at the summit, the cells separate, and mucronate at base. *Style* declining, longer than the stamens. *Stigma* obtuse. *Capsule* compressed at the summit. *Seeds* numerous, very small.

The Anthers in this species, of which alone I can speak with certainty, bear a striking affinity to those of the Cassia. Hence and not from the corolla the specific name of Walter.

Grows very common in the low country in wet pine barrens.

Flowers August—September.

2. PECTINATA. Pursh.

S. viscido pubescens, ramossissima; foliis pectinato pinnatifidis; laciniis indivisis, linearibus, acutis;

Viscidly pubescent, profusely branched; leaves pectinately pinnatifid, with the segments undivided, lin-corolla subrotata; capsulis pubescentibus.

ear, acute; corolla somewhat rotate; capsules pubescent.

Pursh 2. p. 737. Nuttall 2. p. 49.

The specific character above recited contains the character of the S. pectinata as given by Pursh and Nuttall. The observations which follow apply to a species which has been many years in my herbarium under the trivial name of S. Jacksoni, and which I refer to this species with some hesitation.

Root annual? *Stem* 2—4 feet high, profusely and brachiately branched, obtusely 4-angled and with the whole plant cloathed with a viscid pubescence. *Leaves* lanceolate in their outline, the lower always pinnatifid, 1—2 inches long, the upper small, and frequently entire. *Flowers* axillary, opposite, on peduncles longer than the upper leaves. *Corolla* somewhat rotate, of an obscure yellow. *Stamens* as long as the corolla. *Capsule* pubescent?

First sent to me from Louisville, Ga. by Mr. Jackson. Along the direct road from Milledgeville to the Alabama, by the Indian agency, it occurs not unfrequently. In the low country I have not seen it.

Flowers August—October.

PEDICULARIS. Gen. Pl. 1003.

Calyx 5-fidus. *Corolla* ringens, labio superiore emarginato, compresso. *Capsula* 2-locularis, mucronata, obliqua. *Semina* tunicata.

Calyx 5-cleft. *Corolla* ringent, with the upper lip emarginate, compressed. *Capsule* 2-celled, mucronate, oblique. *Seeds* coated.

1, Canadensis.

P. caule simplici; foliis pinnatifidis, inciso-dentatis; capitulo basi folioso, hirsuto; corollis galea setaceo-

Stem simple; leaves pinnatifid, notched and toothed; head hirsute, leafy at base; helmet of the corolla

bidentata; calycibus deorsum truncatis.	with 2 setaceous teeth; calyx obliquely truncated.

Sp. pl. 3. p. 211. Walt. p. 171. Mich. 2. p. 18. Pursh 2. p. 425.

Root perennial, creeping. *Stem* 6—12 inches high, terete, succulent and very pubescent. Radical *leaves* crowded, stem *leaves* alternate, all lanceolate in their outline, pinnatifid, with the segments notched and toothed, somewhat reticulate underneath, when young very pubescent, when old glabrous. *Petioles* compressed and slightly fringed. *Flowers* in crowded leafy spikes. *Bracteas* resembling the leaves. *Calyx* slightly angled, 2-cleft at the summit, obliquely truncated backwards so as to have no under lip. *Corolla* twice as long as the calyx, yellowish, tinged with purple, the lower lip 3-lobed, the intermediate lobe the smallest. *Stamens* a little shorter than the corolla, the 2 longer filaments bearded near the summit. *Style* longer than the corolla. *Stigma* slightly capitate. *Capsule* compressed and opening at the summit. *Seeds* few in each cell, slightly angled.

Grows in rich shaded soils, rare along the sea coasts.
Flowers March—April.

MIMULUS. GEN. PL. 1049.

Calyx prismaticus, 5-dentatus. *Corolla* ringens, labio superiore lateribus replicato. *Stigma* crassum. *Capsula* 2-locularis, polysperma,	*Calyx* prismatic, 5-toothed. *Corolla* ringent, the upper lip with the sides folded back. *Stigma* thick. *Capsule* 2-celled, many seeded.

1. RINGENS,

M. erectus, glaber; foliis sessilibus, lanceolatis, acuminatis, serratis; pedunculis axillaribus, oppositis, flore longioribus; den-	Erect, glabrous; leaves sessile, lanceolate, acuminate, serrate; peduncles axillary, opposite, longer than the flowers;

tibus calycis oblongis, acuminatis.

teeth of the calyx oblong, acuminate.

Sp. pl. 3. p. 360. Walt. p. 172. Mich. 2. p. 23. Pursh. 2. p. 426.

Perennial. *Stem* erect, 4-angled. *Leaves* opposite, narrow, lanceolate, slightly acuminate, serrate, sessile, semiamplexicaule, and with the whole plant glabrous. *Flowers* opposite, axillary near the summit of the stem, on peduncles nearly as long as the leaves. *Calyx* angled, the segments subulate, long. *Corolla* pale blue, the tube rather longer than the calyx, the lower lip larger than the upper, 3-lobed. *Stamens* very short, in the tube of the corolla. *Style* about as long as the stamens. *Seeds* many in each cell, small, oval, attached to a central receptacle.

Grows in damp soils in the middle and upper country of Carolina.
Flowers July—September.

2. ALATUS.

M. erectus, glaber; foliis petiolatis, ovatis, acuminatis, serratis; pedunculis axillaribus, oppositis, flore brevioribus; dentibus calycis rotundatis mucronatis; caule tetragono, alato.

Erect, glabrous; leaves petiolate, ovate, acuminate, serrate; peduncles axillary, opposite, shorter than the flower; teeth of the calyx round, mucronate; stem 4-angled, winged.

Sp. pl. 3. p. 361. Pursh 2. p. 426.

Stem 1—2 feet high, square, slightly winged along the angles. *Leaves* broad, lanceolate, sometimes ovate lanceolate, serrate, when large almost dentate, like the whole plant glabrous, tapering at base to petioles half an inch long. *Flowers* on peduncles about as long as the petioles. Teeth of the *calyx* acuminate mucronate. *Corolla* very similar to that of the preceding species, pale blue, tinged in the throat with the yellow.

These two species have many points of resemblance, the former can be distinguished by its sessile leaves, long peduncles, and larger corolla. This by its larger leaves and stem more distinctly winged.

Grows in the flat pine barrens of Carolina.
Flowers August—September.

CHELONE. Gen. Pl. 1005.

Calyx 5-partitus, 3-bracteatus. *Corolla* ringens, ventricosa. *Filamentum* quintum sterile, cæteris brevius. *Capsula* 2 locularis, 2-valvis. *Semina* plurima, margine membranacea.

Calyx 5-parted, with 3 bracteal leaves at base. *Corolla* ringent, ventricose. A fifth *filament* sterile, shorter than the rest. *Capsule* 2-celled, 2-valved. *Seeds* many, with the margin membranaceous.

1. Glabra.

C. foliis oblongis, lanceolatis, acuminatis, serratis, subsessilibus, glabris; floribus albis.

Leaves oblong, lanceolate, acuminate, serrate, nearly sessile, glabrous; flowers white.

Sp. pl. 3. p. 225. Mich. 2. p. 24. var. alba. Pursh 2. p. 427. Nutt. 2. p. 51.

Root perennial. *Stem* herbaceous, angled, taking root at the joints, 2—3 feet high. *Leaves* generally opposite, 2—4 inches long, slightly acuminate, nearly sessile, and rather obtuse at base, somewhat rugose yet glabrous. *Flowers* in all the species, in compact, imbricate, terminal spikes. *Bracteas* shorter than the calyx. Segments of the *calyx* obtuse, nearly round. *Corolla* large, white, bearded internally on the lower lip. *Stamens* shorter than the corolla. *Anthers* as in the whole genus, woolly

Var. Lanceolata. Nuttall.

Leaves lanceolate, conspicuously acuminate, serrate, sessile, under surface pubescent. Bracteas scarcely dilated. Segments of the calyx oblong. Probably a distinct species. Nutt. Near Columbia and through the middle country the C. Glabra of Walter (p. 172.) is found and agrees very nearly with this variety. The leaves are larger than those of any specimens I have seen from the Northern States, pubescent, almost hairy underneath, the flowers large, numerous and very compactly imbricated. Sent me by Mr. Herbemont.

Flowers in the summer. (July—August. Pursh.)

2. Obliqua.

C. foliis petiolatis, obliquis, lanceolatis, oppositis; floribus purpureis.	Leaves petiolate, oblique, lanceolate, opposite; flowers purple.

Sp. pl. 3. p. 225. Nutt. 2. p. 51.
C. glabra. Var. A. purpurea. Mich. 2. p. 24. Pursh 2. p. 427.

With this plant I am unacquainted. Michaux and Pursh consider it as a variety of the C. Glabra. Linnæus, (after Miller,) Muhlenberg and Nuttall admit it a species. Miller remarks that it differs from the preceding by roots less disposed to creep, broader leaves more deeply serrated, and by its purple flowers. Plukenet however, to whom Linnæus refers, describes and figures his Purpurea with very narrow leaves, but as distinctly petiolate.

Grows in the mountains of Carolina and Georgia. Mich. Pursh. Flowers August.

3. Lyoni. Pursh.

C. glabra, ramosa; foliis petiolatis, cordato-ovatis, serratis; spicis terminalibus densifloris.	Glabrous, branching; leaves on petioles, cordate-ovate, serrate; spikes terminal, with the flowers clustered.

Pursh 2. p. 737. Nutt. 2. p. 51.

A fine large species, with purple flowers. Collected in the upper districts of Carolina and Georgia by Mr. Lyons. Pursh. Near Wilmington, N. C. Nuttall.

Flowers July—September.

4. Latifolia. Muhl. Cat.

C. glabra; foliis lato-ovatis ovalibusque, serratis, abrupte acuminatis, basi at-	Glabrous; leaves wide, ovate and oval, serrate, abruptly acuminate, tapering at

tenuatis, petiolatis; floribus confertis; bracteis calycibusque ciliatis. E.

base, on petioles; flowers crowded; bracteas and calyx ciliate.

This plant which was discovered also by Mr. Lyon along the base of the mountains of Carolina, but principally in Burke county N. C. I have always supposed to be the C. Latifolia of Muhlenberg's Catalogue. Plant generally about 2 feet, obtusely angled, very glabrous. *Leaves* opposite, on petioles nearly an inch long, tapering and somewhat acuminate at base, in my specimens not even obtuse much less cordate, about 4 long by 2 wide. *Flowers* as usual in a dense terminal spike. Segments of the *calyx* oblong and their margins with those of the bracteal leaves pubescent or rather finely fringed. *Corolla* rose coloured, rather smaller than those of the first species.

Flowers August.

PENTSTEMON. Gen. Pl. 1758.

Calyx 5-phyllus. *Corolla* bilabiata, ventricosa. *Filamentum* quintum sterile, cæteris longius, superne barbatum. *Capsula* 2-locularis, 2-valvis. *Semina* numerosa, subglobosa.

Calyx 5-leaved. *Corolla* bilabiate, ventricose. A fifth *filament* sterile, longer than the rest, bearded towards the summit. *Capsule* 2-celled, 2-valved. *Seeds* numerous, globose.

1. Lævigatum

P. caule glabro; foliis lævigatis, ovato oblongis, amplexicaulibus, tenuissime denticulatis, inferioribus integerrimis; floribus

Stem glabrous; leaves smooth, ovate oblong amplexicaule, slightly denticulate, the lower ones entire; flowers paniculate, the

paniculatis, filamento sterili superne barbato.	sterile filament bearded near the summit.

Sp. pl. 3. p. 228. Mich. 2. p. 21. Pursh 2. p. 427. Nutt. 2. p. 52. Chelone Pentstemon. Walt. p 172.

Root perennial. *Stem* 1—2 feet high, nearly terete, generally a little pubescent. *Leaves* of the root lanceolate, acute, frequently entire, sometimes sparingly denticulate, attenuated at base into a petiole 3—5 inches long, slightly winged; of the stem opposite,ovate, acuminate and sometimes pubescent near the base. *Flowers* in terminal panicles. *Leaves* of the calyx ovate lanceolate, externally hairy. *Corolla* pale purple, streaked with deeper tints, pubescent, hairy, within, upper lip 2-cleft with the segments slightly reflected, the lower 3-cleft. *Stamens* shorter than the corolla, the sterile filament sometimes divided. *Style* shorter than the stamens. *Stigma* simple. *Capsule* ovate, acuminate, sometimes 3 celled.

Grows in dry fertile soils.

Flowers June—September.

2. PUBESCENS.

P. caule pubescente; foliis serrulatis, lanceolato oblongis, sessilibus, amplexicaulibus; floribus paniculatis; filamento sterile ab apice infra medietatem barbato.	Stem pubescent; leaves serrulate, lanceolate oblong, sessile, amplexicaule; flowers in panicles; the sterile filament bearded from the summit below the middle.

Sp. pl. 3. p. 227. Mich. 2. p. 21. Pursh 2. p. 428. Nutt. 2. p. 52.

Perennial. *Stem* herbaceous, 1—2 feet high, pubescent, almost tomentose. *Leaves* sessile, amplexicaule, long, tapering, acutely serrulate, pubescent, those of the root sometimes oval and generally denticulate. *Panicle* as in the preceeding species. *Corolla* pale purple.

Grows in dry soils in the upper country of Georgia and Carolina.

Flowers May—Sept.

3. DISSECTU . E.

P? foliis oppositis, sessilibus composite	Leaves opposite, sessile, compoundly

dissectis, laciniis linearibus plerumque obtusis; floribus paniculatis. E.	dissected, the segments linear and generally obtuse; flowers in panicles.

Stem about 2 feet high, slightly pubescent. *Leaves* glabrous, divided to the base, compoundly dissected or pinnatifid, the segments irregular in length, not pectinate, all linear, and generally obtuse. *Flowers* in a panicle composed of opposite branches, bearing a few flowers near and at the summit of the stem. *Corolla* purple, segments of the upper lip longer than those of the lower and more obtuse. *Stamens* shorter than the corolla, sterile filament as long or longer. *Style* nearly as long as the stamens. *Stigma* simple.

This remarkable species was sent me as a Pentstemon from Louisville, Georgia, by Mr. Jackson, its leaves have some affinity to the Seymeria, but the structure of the panicle and of the flower as far as the specimen permitted me to examine it, is exactly similar to the other species of this genus.

Flowers.

MARTYNIA. Gen. Pl. 1010.

Calyx 5-fidus. *Corolla* ringens. *Capsula* lignosa, corticata, 4-locularis, 2-valvis, rostro hamato.	*Calyx* 5-cleft. *Corolla* ringent. *Capsule* woody, coated, 4-celled, 2-valved, the valves terminating in a hooked beak.

1. Proboscidea.

M. caule ramoso; foliis alternis, rotundato cordatis, sub repandis, integerrimis.	Stem branching; leaves alternate, cordate, nearly round, slightly repand, entire.

Sp. pl. 3. p. 264. Pursh 2. p. 428. Nutt. 2. p. 53.

Annual. *Stem* generally procumbent, 1—2 feet high, branching, fistulous, and with the whole plant foetid, viscid and pubescent. *Leaves* sometimes opposite, on petioles 2—6 inches long. *Flowers* axillary, on peduncles 1—3 inches long. In this species there are two lanceolate, small, persistent leaves attached to the base of the calyx and forming in some measure an exterior calyx, the proper calyx is split on the under side to the base, the border 5 cleft, the 2 lateral lobes round, the intermediate longer and acute. *Corolla* of an obscure yellow, with brighter streaks and spotted with purple and brown, border 5 cleft, the 2 upper segments reflected, the 3 lower expanding. *Stamens* shorter than the corolla which contains also the rudiment of a fifth filament. *Style* longer than the stamens, dilated towards the summit. *Stigma* two lobed, compressed, possessing some irritability. *Capsule* rather large, with the surface furrowed like bark, tapering to the summit and each valve terminating in an incurved beak 2—3 inches long. *Seeds* ovate, covered with a pulpy coat.

Grows in dry soils, about buildings, Beaufort, Columbia, generally diffused but I suspect not indigenous.

Flowers June—August.

SCHWALBEA. Gen. Pl. 1001.

Calyx ventricoso-tubulosus, 4-fidus, lacinia superiore minima, infima maxima, emarginata. *Corolla* ringens. *Capsula* 2-locularis, 2-valvis, dissepimento duplicato. *Semina* paleacea.

Calyx tubular, ventricose, 4-cleft, the upper segment very small, the lower very large, emarginate. *Corolla* ringent. *Capsule* 2-celled, 2-valved with a double partition. *Seeds* winged.

1. Americana.

Sp. pl. 3. p. 201. Walt. p. 167. Mich. 2. p. 428. Pursh 2. p. 423. Nutt. 2. p. 54.

Root perennial. *Stem* herbaceous, about 2 feet high, angled and with the whole plant pubescent. *Leaves* alternate, sessile, lanceolate, entire, somewhat 3 nerved. *Flowers* alternate in a terminal raceme. *Peduncles* 1—2 lines long. *Bracteas* 2, linear lanceolate, as long as the calyx. *Calyx* furrowed, 4-cleft, with the lower segments gradually increasing in length. *Corolla* twice as long as the calyx, of a dull purplish yellow colour, the upper lip arched, entire; the lower shorter, 3 cleft. *Stamens* shorter than the corolla. *Anthers* somewhat crescent shaped. *Style* longer than the corolla. *Stigma* simple. *Capsule* ovate, (dissepiment, composed of the inflected margin of the valves, and parallel with the longitudinal receptacle. *Seeds* numerous, imbricated, linear, winged. Nutt.)

Grows in pine barrens.

Flnwers May—June.

EUCHROMA. Nutt.

Calyx spathæformis, 2-fidus, plus minusve bipartitus. *Corolla* bilabiata, labio superiore longiore, lineari; inferiore 3-fido. *Antheræ* lineares, cohœrentes. *Capsula* 2-valvis, 2-locularis. *Semina* plurima, vesiculo membranaceo inclusa.

Calyx spathe shaed, 2-cleft, more or less divided. *Corolla* 2 lipped, the upper long, linear, the lower lip 3 cleft. *Anthers* linear, cohering. *Capsule* 2-valved, 2-celled. *Seeds* numerous inclosed in a membranous vesicle.

1. Coccinea.

E. foliis bracteisque coloratis divaricato 3-fidis; calyce bifido, corollam subæquante, laciniis retusis, emarginatis. Nut. 2. p. 55.

Leaves and coloured bracteas divaricately 3 cleft; calyx 2 cleft, as long as the corolla with the segments retuse, emarginate.

Bartsia Coccinea. Sp. pl. 3. p. 185. Mich. 2. p. 17. Walt. p. 167. Pursh 2. p. 429.

Annual or biennial. *Stem* 12—18 inches high, pubescent. Root *leaves* lanceolate, 3 nerved, entire, hairy. Stem *leaves* alternate narrow, long, divided into 3 almost linear segments, pubescent. *Flowers* in a terminal spike. *Bracteas* large, persistent, slightly lobed, enfolding the flower, red, frequently very brightly coloured near the summit. *Corolla* yellowish, long, the upper lip narrow enclosing the stamens, the lower much shorter, with the segments plaited, acute. (*Anthers* long, linear, with the lobes unequal, cohering, producing a polleniferous disk. Nutt.)

Grows in damp soils in the middle and upper districts of Carolina and Georgia.

Flowers June—August.

MELAMPYRUM. Gen. Plant. 999.

Calyx 4 fidus. *Corollæ* labium superius compressum, margine replicato. *Capsula* 2 locularis, obliqua, hinc dehiscens. *Semina* 2 in loculo singulo.	*Calyx* 4 cleft. Upper lip of the *corolla* compressed with the margin folded back. *Capsule* 2 celled, oblique, opening on one side. *Seeds* 2 in each cell.

1. Lineare. Lamark.

M. foliis inferioribus linearibns, integris, floralibus lanceolatis postice dentatis ; floribus axillaribus distinctis.	Lower leaves linear, entire, the upper lanceolate, toothed at base ; flowers axillary, solitary.

Sp. pl. 3. p. 200. Pursh 2. p. 430. Nutt. 2. p. 58.
M. Americanum. Mich. 2. p. 16.

Annual. *Stem* about 12 inches high, branching, terete, slightly pubescent. Lower *leaves* linear, the upper generally lanceolate, all opposite, on short petioles, the youngest dentate near the base. *Flowers* axillary, small, on short peduncles. *Corolla* pale yellow, 2 lipped, the lower lip 3 cleft. *Stamens* nearly equal. *Capsule* oblique, compressed, acute, reflected ? *Seeds* cartilaginous, oblong.

Grows in the mountains of Carolina. Dr. Macbride.

OBOLARIA. Gen. Pl. 1044.

Calyx 0? *Corolla* campanulata, 4 fida. *Stamina* æqualia ex divisuris corollæ. *Stigma* bifidum. *Capsula* 2 valvis, 4 locularis? *Semina* plurima, parva.

Calyx 0? *Corolla* campanulate, 4-cleft. *Stamens* equal in the divisions of the corolla. *Stigma* 2-cleft. *Capsule* 2 valved, 4 celled? *Seeds* numerous, small.

1. Virginica.

Sp. pl. 3. p. 346. Pursh 2. p. 431. Nutt. 1. p. 103.

Root perennial? *Stem* herbaceous, 4—6 inches high, smooth. *Leaves* obovate, obtuse, sessile, and slightly decurrent, entire, smooth, glaucous. *Flowers* generally 2—3 on the summit of small, opposite, axillary branches, sometimes sessile. *Bracteas?* 2 leaves similar to the leaves of the stem at the base of each flower, performing perhaps the functions of a calyx. *Corolla* campanulatr, deeply divided, white; segments equal, acuminate, sometimes fimbriate. *Filaments* inserted in the divisions of the corolla, about half as long as the segments. *Germ* superior. *Style* rather longer than the filaments. *Stigma* deeply 2 cleft. *Capsule* 2 valved, 4 celled? or perhaps 1 celled with the rudiments of partitions. *Seeds* very small.

This plant, from the structure of the corolla and the insertion of the stamens, certainly belongs to the class Tetrandria where it has been correctly placed by Mr. Nuttall.

Grows in rich soils, near Clouter's spring, 6 miles from Charleston.

Flowers March?

OROBANCHE. Gen. Pl. 1045.

Calyx 4—5 fidus. *Corolla* sub-ringens, 5-fida. *Capsule* ovata, acuta, 1-locularis, 2-valvis. *Semina* plurima, minima. *Glandula* sub basi germinis.

Calyx 4—5 cleft. *Corolla* somewhat ringens, 5-cleft. *Capsule* ovate, acute, 1-celled, 2-valved. *Seeds* numerous, very small. A *gland* under the base of the germ.

1. AMERICANA.

O. caule simplicissimo, squamis ovato-lanceolatis, imbricatis, obtecto; spica terminali, glabra; corollis recurvatis; staminibus exertis.	Stem very simple, covered with ovate-lanceolate, imbricate scales; spike terminal, glabrous; corolla recurved; stamens exserted.

Sp. pl. 3. p. 351. Walt. p. 166. Mich. 2. p. 26. Pursh 2. p. 431. Nutt. 2. p. 58.

Root perennial, somewhat tuberous, parasitic? *Stems* clustered, forming compact patches, 1—2 feet in diameter, simple, carnose, clothed with long ovate scales, tapering towards the summit, of a pale brown colour. *Flowers* in a terminal spike, one or more from each bud, covered and protected by the scales of the stem. *Calyx* 5? parted unequally, with 2 small bracteal leaves at base. *Corolla* slightly incurved, 5 lobed, nearly white, a little longer than the calyx. *Style* nearly as long as the corolla. *Stigma* capitate.

Grows in rich shaded soils.

Flowers March—April.

2. UNIFLORA.

O? scapis nudis unifloris; calyce ebracteato; corolla recurvata.	Scapes naked, one flowered; calyx without bractea; corolla recurved.

Sp. pl. 3. p. 352. Walt. p. 166. Mich. 2. p. 26. Pursh 2. p. 431. O. Biflora. Nutt. 2. p. 59.

Root perennial, somewhat tuberous. parasitic. *Stems* very short, numerous from each root, covered with scales, bearing one or two flowers near the summit. *Flowers* in my specimens invariably solitary, on naked, pubescent scapes, 2—4 inches long. *Calyx* somewhat campanulate, deeply 5-cleft, pubescent. *Corolla* 3 times as long as the calyx, slightly curved, of a yellowish white colour, with deeper veins, border 5-cleft, segments oval, edged with a very fine blue fringe. *Stamens* and *Style* much shorter than the corolla. (*Anthers* obcordate with the filaments smooth. *Stigma* bilammellate, perforated, lobes rounded and acuminate, the lower lobe arched over the stamens. Nutt.)

Grows in the pine barrens of the middle country of Carolina. Dr. Macbride.

Flowers April.

3. VIRGINIANA.

O? caule ramoso; floribus alternis distantibus; corollis deciduis, 4-dentatis; capsulis oblique truncatis, hinc dehiscentibus.

Stem branching; flowers alternate, distant; corolla deciduous, 4-toothed; capsule obliquely truncated, opening on one side.

Sp. pl. 3. p. 351. Walt. p. 166. Mich. 2. p. 26. Pursh 2. p. 431. Epifagus Americana. Nutt. 2. p. 60.

Root parasitic, somewhat tuberous, perennial. *Stem* 12—18 inches high, branching, smooth, carnose, bearing small remote scales. *Flowers* alternate, distant, nearly sessile, the lower ones bearing fruit, the upper ones generally abortive. *Calyx* short, 4-tooothed. *Corolla* 4-toothed, the sterile flowers much larger than the fertile, white, streaked with purple. *Stamens* about as long as the corolla. *Style* simple. *Stigma* capitate. *Capsule* nearly round, dilating, after it opens, very much in the shape of a cup.

Grows on the roots of Beech trees, to which tree it is exclusively attached.

Flowers August—September.

These three plants probably belong to distinct genera. The O. Americana alone resembles strongly the European species of this genus. Mr. Nuttall, and I believe Mr. Rafinesque before him has pointed out the propriety of separating the O. Virginica from the other species. I am not able at present to turn to the observations of Mr. Rafinesque whose name would have at least the claim of priority, and I have continued to use the ancient arrangement.

CLASS XV.

TETRADYNAMIA

SILICULOSA.	*SILIQUOSA.*
397 CAKILE,	402 DENTARIA,
398 DRABA,	403 CARDAMINE,
399 CORONOPUS,	404 SISYMBRIUM,
400 LEPIDIUM,	405 ERYSIMUM,
401 THLASPI.	406 ARABIS,
	407 CLEOME.

CAKILE. Gært.

Silicula lanceolata, subtetragona, medio utrinque dente instructa, biarticulata, ad articulos secedens; *articulis* monospermis, evalvibus.

Pod lanceolate, somewhat 4-angled, toothed near the middle on each side, 2-jointed, separating at the joints. *Joints* 1-seeded, without valves.

1. Americana. Nutt.

C. foliis carnosis, glaberrimis, spathulato ovatis, sinuatis; lobis obtusis, subdentatis; articulo siliquæ inferiore subtereti, superiore compresso.

Leaves fleshy, glabrous, spathulate-ovate, sinuate; lobes obtuse, toothed; lower joint of the pod somewhat terete, the upper compressed.

Nuttall 2. p. 62.
C. Maritima. Pursh 2. p. 434.

Root annual. *Stem* erect, with expanding branches, slightly angled towards the summit. *Leaves* alternate, not glaucous, the upper ones lanceolate, the lower almost hastate. *Flowers* in terminal racemes, but forming corymbose clusters when they first begin to expand; common peduncle 1—3 inches, the partial 2—3 lines long. *Calyx* 4-leaved, deciduous; leaflets linear lanceolate, slightly gibbous at base. *Corolla* cruciform. *Petals* 4, obcordate, white, with claws a little longer than the calyx. *Filaments* 6, of which 2 are shorter than the others. *Germ* superior, slightly compressed, jointed below the middle. *Style* 0. *Stigma* thick. *Glands* 4, two at the base of the shorter filaments, and one between the base of each longer pair. *Pod* 2-jointed, without valves. *Seed* 1 in each joint, oval, glabrous.

Grows in the drifting sands along the margins of the ocean. Cultivated sometimes for the table, and much commended.

Flowers April—July.

DRABA. GEN. PL. 1076.

Silicula integra, ovali-oblonga, valvis planiusculis, dissepimento parallelis.	*Pod* entire, oval oblong; valves somewhat flat, parallel with the partition.

1. CAROLINIANA.

D. foliis ovali-lanceolatis, hirsutissimis; ramulis floriferis nudis; siliculis longo-linearibus, glabris, approximatis.	Leaves oval lanceolate, very hairy; flower bearing stems naked; pods linear, glabrous, approximate.

Walt. p. 174. Nutt. 2. p. 62.
D. hispidula. Mich. 2. p. 28. Pursh 2. p. 433.

Root annual. *Stem* very short, covered like the leaves with a stellular pubescence, and divided almost at the surface of the earth into 4 or 5 naked flower bearing branches, each about 2 inches long. *Leaves* clustered on the stem, small, more or less acute, and covered with a stellular pubescence. *Flowers* on the summit of the branches. *Calyx* 4 leaved, deciduous. *Corolla* 4-petalled, oblong, with a base tapering to a claw, white, in the later florets probably wanting. *Stamens* half as long as the petals. *Style* very short. *Stigma* quadrifid. *Pod* 3—4 lines long, linear lanceolate. *Seeds* many. *Dissepiment* generally persistent.

Grows in sandy soils, James' Island, St. John's Berkley, Augusta. Flowers in February, March.

CORONOPUS. GÆRT.

Silicula reniformis, compressa, corrugata; loculis evalvibus, monospermis.	*Pod* reniform, compressed, corrugate; cells one seeded, without valves.

1. DIDYMA.

C. siliculis emarginatis, didymis, reticulato-rugosis; stylo obsoleto; corymbis multifloris.	Pods emarginate, in pairs, reticulate, rugose; style obsolete; corymb many flowered.

Pursh 2. p. 435. Nuttall 2. p. 64.
Lepidium didymum. Sp. pl. 3. p. 439.
Biscutella apetala. Walt. 174.
Cochlearia humifusa. Mich. 2. p. 27.

Root fibrous, in our climate almost perennial. *Stem* branching, prostrate, 1 to 2 feet long, a little hairy. *Leaves* alternate, sessile, glabrous, pinnatifid; the *segments* linear lanceolate, sometimes toothed, mucronate. *Flowers* in small corymbs opposite the leaves. The *Rachis* as in most of this class increasing in length after flowering, and forming racemes when in fruit. *Calyx* 4-leaved, *leaves* lanceolate, acute, glabrous, 2 appressed, the others expanding, all somewhat persistent but falling before the fruit matures. *Corolla* 0. *Filaments* 2 fertile, subulate, as long as the calyx, 4 sterile, 2 at the base of each fertile filament. *Anthers* incumbent, erect. *Germs* superior, compressed, orbicular. *Style* none. *Stigma* sessile. *Pod* 2-lobed, emarginate at each end, without valves. *Seeds* 1 in each cell.

Grows very common in open grounds and pastures, is eaten freely by cattle early in the spring and communicates to their milk and butter a disagreeable flavor.

Flowers from February to July. *Pepper Grass.*

2. RUELLII.

C. siliculis integris cristato-muricatis; sty-	Pod entire, with a muricated margin;

lo porrecto; corymbis paucifloris.

style prominent; corymb few flowered.

Pursh 2. p. 435. Nutt. 2. p. 64.

This plant which I have inserted from Pursh and Nuttall has escaped my observation. It is said to grow in pastures intermingling with the C. Didyma, and to be a larger species.

LEPIDIUM. Gen. Pl. 1077.

Silicula emarginata, cordata, polysperma. _Valvulis_ carinatis dissepimento contrariis.

Pod emarginate, cordate, many seeded. _Valves_ keeled, with a transverse partition.

1. Virginicum.

L. foliis radicalibus pinnatifidis, caulinis lineari lanceolatis, subinciso serratis; floribus 4-petalis, diandris; siliculis lentiformibus.

Radical leaves pinnatifid, those of the stem linear lanceolate, deeply serrate; flowers 4-petalled, diandrous; pod lens shaped.

Sp. pl. 3. p. 440.
Walter 175.
Mich. 2. p. 27. Pursh 2. p. 435. Nutt. 2. p. 64.

Root perennial. *Stem* herbaceous, 12—15 inches high, glabrous. *Leaves* alternate, sessile, finely ciliate, more or less deeply notched, the upper ones diminishing in size, and nearly entire. *Flowers* in terminal racemes. *Calyx* 4-cleft, leaflets lanceolate, appressed, membranaceous along the margin, pubescent on the back, deciduous. *Petals* 4, white, obovate, a little longer than the calyx. *Glands* 4, very small, at the base of the germ. *Filaments* 2, sometimes 3, as long as the calyx. *Anthers* incumbent. *Germ* orbicular, compressed. *Style* 0. *Stigma* globose. *Pod* orbicular, compressed, slightly emarginate, 2 celled. *Seeds* 1 in each cell.

Grows in pastures and about buildings. Very common.

Flowers April—May.

THLASPI. Gen. Pl. 1078.

Silicula emarginata, obcordata, polysperma. *Valvulis* navicularibus, marginato-carinatis.	*Pod* emarginate, obcordate, many seeded. *Valves* boat shaped, keeled.

1. Bursa pastoris.

T. hirsutum; siliculis deltoideo-obcordatis; foliis radicalibus pinnatifidis.	Hirsute; pods deltoid, obcordate; root leaves pinnatifid.

Sp. pl. 3. p. 447. Walt. p. 173. Pursh 2. p. 435. Nutt. 2. p. 64.

Root fusiform, annual. Radical *Leaves* long, lanceolate, deeply pinnatifid, with a long naked base. Stem *Leaves* lanceolate, denticulate, sagittate and amplexicaule at base, all hairy but scarcely hirsute. *Flowers* in long racemes. *Calyx* 4-leaved, leaflets lanceolate,deciduous, membranaceous along the margins. *Petals* obovate, white, longer than the calyx. *Stamens* 6, about as long as the calyx, two a little shorter than the others. *Germ* superior, obovate. *Style* very short. *Stigma* glandular. *Pod* triangular, deeply emarginate along the upper line, not distinctly keeled, 2 celled. *Seeds* many in each cell, oval.

Grows in cultivated land. An exotic now completely naturalized.

Flowers February—May.

SILIQUOSA.

DENTARIA. Gen. Pl. 1087.

Siliqua elastice dissiliens. *Valvulis* enervibus, revolutis. *Dissepimentum* sub fungosum. *Stigma*	*Pod* opening elastically. *Valves* without nerves,revolute. *Partition* somewhat fungous. *Stigma* emar-

emarginatum. *Calyx* connivens.	ginate. *Calyx* connivent.

1. LACINIATA.

D. foliis ternatis, foliolis tripartitis, laciniis oblongis, inciso dentatis; radice moniliformi.	Leaves ternate, leaflets 3-parted, segments oblong,notched and toothed; root moniliform.

Sp. pl. 3. p. 479. Pursh 2. p. 438. Nutt. 2. p. 66.
D. concatenata. Mich. 2. p. 30.

Root perennial, composed of small tubers, slightly connected together. *Stem* herbaceous, 6—8 inches high, bearing 2—3 leaves, each compoundly 3-cleft, with the segments somewhat lanceolate, and irregularly notched. *Flowers* in terminal racemes. *Calyx* lanceolate, acute. *Corolla* 3 times as large as the calyx, pale purple. *Stamens* longer than the calyx, not as long as the corolla.

Grows in shady places on the highest mountains of Carolina.

Flowers May—June. Pursh.

2. DIPHYLLA.

D. caulibus diphyllis, foliolis ternis, ovato-oblongis, inæqualiter inciso-dentatis; radice dentata.	Stems two leaved, leaflets three, ovate oblong, unequally toothed; root toothed.

Mich. 2. p. 30. Pursh 2. p. 438. Nutt. 2. p. 66.

Stems somewhat clustered. *Flowers* yellowish. *Roots* tuberous. Mich.

Grows among the high mountains of Carolina.

Flowers May—June.

3. MULTIFIDA. Muhl.

D. caulibus diphyllis; foliolis multipartitis, laciniis linearibus.	Stems two leaved; leaflets many parted, segments linear.

Muhl. Cat. p. Nutt. 2. p. 66.

Stem nearly a foot high, glabrous. *Leaves* 2, opposite, 2—3 inches long, variously and irregularly divided, the segments all linear and somewhat acute. *Flowers* in a terminal raceme. Leaves of the *Calyx* lanceolate, appressed. *Corolla* of a pale purple, more than twice as long as the calyx. *Stamens* all longer than the calyx. *Style* longer than the stamens. *Stigma* capitate.

Grows in the mountains of Carolina.

Flowers.

CARDAMINE. Gen. Pl. 1088.

Siliqua elastice dissiliens, valvulis revolutis. *Stigma* integrum. *Calyx* apice hians.	*Pod* opening elastically, with the valves revolute. *Stigma* entire. *Calyx* expanding at the top.

1. Spathulata.

C. parvula; caulibus decumbentibus; foliis radicalibus spathulatis, pubescentibus; caulinis lineari-cuneatis, integris dentatisque; siliquis divaricato-laxis.	Small; stems decumbent; root leaves spathulate, pubescent; stem leaves narrow, cuneate, entire and toothed; pods loosely divaricate.

Mich. 2. p. 29. Pursh 2. p. 439. Nutt. 2. p. 67.

A plant has been sent me by Dr. Anderson from Claremont county, S. Carolina, as the C. Spathulata of Michaux, which though differing a little from the description, I know not where else to refer. *Root* annual? *Stem* erect, 6—12 inches high,hairy, and the pubescence on the stem and leaves stellular. Root *Leaves* lanceolate, spathulate, rather obtuse, scarcely an inch long. *Stem* naked below, leaves towards the summit of the stem linear lanceolate. *Flowers* in racemes axillary and terminal. *Calyx* 4-leaved, hairy, leaflets oval. *Corolla* white, petals oblong and obovate, twice as long as the calyx. *Stamens* nearly as long as the corolla. *Style* very short. *Stigma* capitate. *Pod* terete, linear, about an inch long.

None of the pods in my specimen were mature, but they appeared to exhibit the character of this genus.

Grows in the middle districts of Carolina.

Flowers March—April.

2. VIRGINICA.

C. glabra, erecta; foliis pinnatis, foliolis lanceolatis, subauriculatis; siliquis stricte erectis.

Glabrous, erect; leaves pinnate, leaflets lanceolate, somewhat auriculate; pods long, erect, straight.

Sp. pl. 3. p. 488. Mich. 2. p. 29. Pursh 2. p. 439. Nutt. 2. p 67.

Root perennial? *Stem* 8—12 inches high, a little hairy. *Leaves* alternate, pinnate, leaflets somewhat lanceolate, generally angled on the under side, the upper ones larger. *Flowers* in terminal racemes, small. *Corolla* white, a little longer than the calyx. *Pod* terete, linear.

Grows in the upper districts of Carolina.
Flowers April—May.

3. PENNSYLVANICA.

C. glabra, ramosa; foliis pinnatis, foliolis subrotundo-obtusis angulato-dentatis; siliquis angustis, erectis.

Glabrous, branching; leaves pinnate, leaflets nearly round, obtuse, toothed and angled; pods narrow, erect.

Sp. pl. 3. p. 486. Pursh 2. p. 440. Nutt. 2. p. 67.
Sisymbrium Nasturtium? Walt. p. 174.

Root annual? *Stem* erect, about a foot high, branching, angled and glabrous. *Leaves* pinnate or rather pinnatifid, glabrous, leaflets 4—6 pair, obtuse, toothed, entire when very small. *Flowers* in terminal racemes. *Leaflets* of the calyx linear lanceolate, glabrous, deciduous. *Petals* twice as long as the calyx, obovate, white. *Stamens* a little longer than the germ. *Style* 0. *Stigma* obtuse. *Pod* about an inch long, terete and very slender.

To the preceding species this bears much resemblance, it is distinguished however, by its glabrous stem and leaves, by its larger and more distinctly toothed leaflets, and by a pod longer and much more slender. The two species have probably been united by Michaux.

Grows in wet lands. Very common in the tide swamps, resembling very much in flavour the garden cress, for which it is frequently used as a substitute.
Flowers February—April.

SISYMBRIUM. GEN. PL. 1089.

Siliqua rostro brevi, tereti, dehiscens, valvulis rectiusculis. *Calyx, Corollaque* patentes.	*Pod* with the beak short, terete, opening, and the valves straight. *Calyx* and *Corolla* expanding.

1. NASTURTIUM.

S. siliquis declinatis brevibus; foliis pinnatis, foliolis subrotundis, repando-dentatis.	Pods declining, short; leaves pinnate, leaflets nearly round, repand, sparingly toothed.

Sp. pl. 3. p. 489. Pursh 2. p. 440. Nutt. 2. p. 67.

Root perennial. *Stem* 12—18 inches high, branching. Root *Leaves* 2—5 inches long, pinnatifid, with the upper segments much dilated, very glabrous. *Flowers* in terminal racemes. Leaves of the *calyx* ovate. *Petals* twice as long as the calyx, obovate, bright yellow. *Stamens* shorter than the corolla. *Pods* about an inch long, many seeded, slightly incurved.

This plant, the common cress of our gardens, is becoming naturalized in our country, but in the low country of South-Carolina, it certainly is not indigenous.

Grows in close and damp soils.

Flowers February—May.

2. PALUSTRE.

S. siliquis declinatis oblongo-ovatis; foliis pinnatifidis serratis; petalis calyce brevioribus.	Pods declining, oblong, ovate; leaves pinnatifid, serrate; petals shorter than the calyx.

Sp. pl. 3. p. 490. Pursh 2. p. 440. Nutt. 2. p. 67.

With this species I am unacquainted. (*Root* annual. *Flowers* yellow. Pursh.)

Grows in inundated and low ground, from Canada to Carolina. Pursh.

Flowers July—August.

3. WALTERI E.

S. ramosissimum, procumbens; foliis pinnatifidis, laciniis obtusis, sinuato-dentatis, supremis confluentibus; siliqnis brevibus, sub erectis. E.	Much branched, procnmbent; leaves pinnatifid; segments obtuse, sinuate-dentate, the upper confluent; pods short, generally erect.

S. tanacetifolium. Walt. p. 174.

Root perennial? *Stem* generally procumbent, 6—14 inches long, angled and sprinkled with a transparent pubescence. *Leaves* pinnatifid, glabrous, toothed and sinuate, the segments very gradually increasing in size towards the summit. *Flowers* in simple racemes; racemes axillary, opposite the leaves and terminal. Leaves of the *Calyx* lanceolate, a little hairy, appressed. *Petals* nearly linear, tapering at base, scarcely as long as the calyx, yellow. The long *Stamens* just equal to the germ. *Anthers* somewhat globose. *Style* very short. *Stigma* capitate. *Pod* scarcely half an inch long, terete, slightly incurved, opening from the base. Very nearly allied to the preceding species, from which it appears to differ by its procumbent stems and terete pod.

Grows in damp soils. Common around Charleston and Beaufort.

Flowers February—May.

4. AMPHIBIUM.

S. siliquis declinatis oblongo ovatis; foliis oblongo lanceolatis pinnatifidisve, serratis; petalis calyce longioribus.	Pods declining, oblong ovate; leaves oblong, lanceolate, sometimes deeply serrate and pinnatifid; petals longer than the calyx.

Sp. pl. 3. p. 491. Pursh 2. p. 440. Nutt. p. 67.
Sisymbrium indicum.

Root perennial? *Stem* erect, about a foot high, branching, angled, glabrous. *Leaves* lanceolate, acute, deeply toothed, the lower ones pinnatifid, sinuate, and tapering at base. *Flowers* in terminal racemes. Leaves of the *Calyx* oval, appressed, deciduous, a little hairy near the summit. *Petals* pale yellow, sometimes wanting. *Pod* short. about half an inch long, ascending, terete.

Grows along the margins of ditches and in wet places. Common in the river swamps of Ogeechee.

Flowers March—April and sometimes in the autumn.

5. CANESCENS. Nutt.

S. foliis bipinnatifidis, canescentibus, laciniis dentatis, obtusis, interdum obovatis; petalis calycem æquantibus; siliquis sub angulatis, adscendentibus, pedunculo brevioribus.	Leaves doubly pinnatifid, hoary; segments dentate, obtuse, sometimes obovate; petals as long as the calyx; pods slightly angled, ascending, shorter than the peduncle.

Nutt. 2. p. 68.
S. Sophia. Pursh 2. p 440.
Erysimum pinnatum. Walt. p. 174.

Root annual. *Stem* 1—2 feet high, erect, branching, with the leaves very pubescent. *Leaves* 2—3 inches long, hoary and with segments variously toothed. *Flowers* in terminal racemes. Leaves of the *Calyx* oval erect, pubescent. *Petals* obovate, as long as the calyx, expanding, yellowish. *Stamens* longer than the germ. *Style* short. *Stigma* capitate. *Pod* short, distinctly angled, sometimes splitting at the angles as if four valved. *Seeds* many in each cell, obovate, slightly roughened.

While looking over my specimens I have had reason to believe that we have another species in this country closely allied to the present, with leaves more finely dissected and with longer pods, but I have not materials to complete its character.

Grows in sandy pastures, very common.

Flowers March—April.

ERYSIMUM. GEN. PL. 1090.

Siliqua columnaris, tetraeda. *Calyx* clausus.	*Pod* columnar, square. *Calyx* closed.

1. OFFICINALE.

E. siliquis spicæ adpressis; foliis runcinatis.	Pods appressed to the stem; leaves runcinate.

Sp. pl. 3. p. 509. Mich. 2. p. 31. Pursh 2 p. 436. Nutt. 2. p. 68.

Root annual. *Stem* 1—3 feet high, erect, glabrous, with expanding branches. Lower *Leaves* large and runcinate, the upper ones somewhat hastate. *Flowers* on long, very slender racemes, very small. *Corolla* pale yellow, a little longer than the calyx. *Pod* 6—8 lines long, tapering to an acute point, closely appressed to the stem.

An European plant, partially naturalized in our country.

Grows along the road side from Canada to Carolina. Pursh. Not found in the low country of Carolina.

Flowers May—June. Pursh.

ARABIS. GEN. PL. 1049.

Siliqua linearis, plerumque compressa, stigmate subsessili coronata, valvis venosis. *Semina* serie unica disposita. *Calyx* erectus.	*Pod* linear, generally compressed, crowned with the sessile stigma, valves veined. *Seed* arranged in one row. *Calyx* erect.

1. CANADENSIS.

A. foliis lanceolatis, utrinque angustatis, remote dentatis, sessilibus; siliquis pendulis, ancipitibus, falcatis.	Leaves lanceolate, narrow at each end, remotely toothed, sessile; pods pendulous, compressed, falcate.

Sp. pl. 3. p. 540. Nutt. 2. p. 70.
A. Falcata. Mich. 2. p. 31. Pursh 2. p. 437.

Root perennial. *Stem* 2 to 4 or 5 feet high, a little hairy near the base. *Leaves* alternate, sessile, pubescent, irregularly toothed. *Flowers* in long terminal racemes. *Corolla* small, white. *Pods* very long (3—5 inches) linear, recurved, sometimes pendulous.

Grows in rocky shady situations. Pursh.
Sent me from Milledgeville, Georgia, by Dr. Boykin.
Flowers May—June.

2. Rhomboidea.

A. foliis glabris, rhomboideis, repando-dentatis, infimis rotundatis, longe petiolatis, radice tuberosa.

Leaves glabrous, rhomboidal, repand, toothed, the lower ones nearly round, on long petioles; root tuberous.

Pursh 2. p. 437. Nutt. 2. p. 70.
Cardamine Rotundifolia? Mich. 2. p. 30.

Root a small bulb or tuber. *Stem* 12—18 inches long, erect, glabrous, simple. Root *Leaves* nearly round and entire and on petioles 4—6 inches long. Stem *Leaves* on short petioles, ovate, remotely toothed or angled. *Flowers* in terminal racemes. *Petals* white, three times as long as the calyx. *Stamens* longer than the calyx. *Pods* on long peduncles, terete, mucronate.

Grows in the upper districts of Carolina and Georgia.
Sent to me with the preceeding from Milledgeville by Dr. Boykin.
Flowers March to May. Pursh.

CLEOME. Gen. Pl. 1099.

Glandulæ nectariferæ 3, ad singulum sinum calycis singula, excepto infimo. *Petala* omnia adscendentia. *Germen* stipitatum. *Siliqua* 1-locularis, 2-valvis.

Nectariferous *glands* 3, one at each division of the calyx except the lowest. *Petals* all ascending. *Germ* stipitate. *Pod* 1-celled, 2-valved.

1. Pentaphylla.

C. floribus gynandris; foliis quinatis; caule inermi.

Flowers gynandrous; leaves quinate; stem unarmed.

Sp. pl. 3. p. 564. Pursh 2. p. 441. Nutt. 2. p. 73.

Root annual. *Stem* 2—3 feet high, sometimes branching, glabrous, viscid. *Leaves* on petioles, 3—5 inches long, *Leaflets* lanceolate, very finely and irregularly serrulate, upper leaves sometimes undivided. *Flowers* in long terminal racemes. *Peduncles* 1—2 inches long. *Calyx* small, (5 leaved. Nutt.) *Petals* obovate or nearly round, white, with very long capillary claws. *Germ* linear, supported by a pedicel much longer than the petals, to the middle of which 6 linear anthers are attached on long filaments. *Style* very short. *Stigma* capitate. *Capsule* 2—3 inches long, linear, on a long footstalk. *Seeds* few, and distant in each pod.

Grows in cultivated grounds, and about buildings.

Flowers May—July.

2. Cuneifolia. Muhl.

C. foliis simplicibus, subsessilibus, obovatis ovalibusque, basi cuneatis; floribus hexandris, terminali-fasciculatis.

Leaves simple, nearly sessile, obovate, cuneate at base; flowers hexandrous in terminal clusters.

Muhl. Cat. p. 61. Pursh. 2. p. 73.

Root annual? *Stem* 12—18 inches high, erect, much branched near the summit, glabrous. *Leaves* about an inch long, slightly retuse, entire. *Flowers* in clusters at the summit of the branches. *Peduncles* 1—6 lines long. *Calyx* very minute. *Corolla* obovate or nearly round, supported on long slender claws, white, tinged with purple. *Stamens* rather longer than the corolla, inserted just within, and sometimes between the petals. *Anthers* linear. *Germ* stipitate. *Style* 0. *Stigma* obtuse. *Pod* nearly 2 inches long, filiform and very slender.

Grows very abundantly in the dry ridges between Milledgeville and the Chatahouchie.

Flowers June—August.

CLASS XVI.

MONADELPHIA.

TRIANDRIA.

408 SISYRINCHIUM,

PENTANDRIA.

409 PASSIFLORA,
410 OPLOTHECA,

OCTANDRIA.

411 PISTIA,

DECANDRIA.

412 GERANIUM,
413 SCHRANKIA,

POLYANDRIA.

414 SIDA,
415 MALVA,
416 MALOPE,
417 HIBISCUS,
418 GORDONIA,
419 STEWARTIA,
420 HOPEA.

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SISYRINCHIUM. Gen. Pl. 1101.

Corolla hexapetala. *Stamina* utplurimum connata. *Germen* subrotundo-triquetrum, pedicellatum, extra spatham.

Corolla 6-petalled. *Stamens* generally united. *Germen* triquetrous nearly round, pedicellate, projecting out of the spathe.

1. Mucronatum.

S. caule simplici, ancipiti, foliisque angustissimo; spatha colorata; valva altera in mucronem longum desinente.

Stem simple, compressed and with the leaves very narrow; spathe coloured; one valve extending into a long point.

Mich. 2. p. 33. Pursh 1. p. 31. Nutt. 1. p. 25.
S. bermudiana? Walt. 219.

Root fibrous, perennial. *Leaves* resembling the blades of grass, 4—6 inches long, very narrow, acute, generally tinged with blue at base. Flower *Stem* rather longer than the leaves, compressed. *Flowers* in 2? terminal clusters, each 4—5 flowered; common sheath 2-leaved, compressed, acute, unequal, 1 longer than the flowers; partial sheaths small, somewhat membranaceous, each enveloping the base of a single peduncle. *Peduncles* 5—6 lines long. *Calyx* 0. *Petals* bright blue, emarginate, mucronate, expanding. *Filaments* 3, shorter than the corolla, united into a tube. *Germ* inferior, globose. *Style* triquetrous, a little longer than the stamens. *Stigma* 3, acute. *Capsule* globose, 3-valved, 3-celled *Seeds* several in each cell.

Grows in meadows and damp land along the range of mountains from Pennsylvania to Carolina.

2. BERMUDIANA.

S. caule ancipiti, ramoso, folioso; spathis muticis flore brevioribus; petalis mucronatis; foliis ensiformibus.	**Stem compressed, branching, leafy, spathes unawned, shorter than the flowers; petals mucronate; leaves ensiform.**

Sp. pl. 3. p. 578. Mich. 2. p. 33. Nutt. 1. p. 25.
S. Palmifolium? Walt. 219.

Root perennial. fibrous. *Stem* erect, 12—18 inches high, generally divided near the summit into two unequal branches, compressed, striate, very glabrous. *Leaves* ensiform, very acute, glabrous, shorter than the stem. *Flowers* in terminal clusters; common spathe 2-leaved, each leaf sheathing a cluster of 4 or 5 flowers, flowers longer than the sheath, proper spathe one small membranaceous leaf at the base of each peduncle. *Petals* 6, oval, emarginate, mucronate, hairy, of a very bright azure colour, yellow and united just at the base. *Stamens* shorter than the corolla, united into a tube. *Anthers* conspicuously 2-lobed at base. *Germ* inferior, globose, hairy. *Style* longer than the stamens. *Stigmas* acute, glandular. *Capsule* furrowed, hairy, 3-valved, 3-celled. *Seeds* many in each cell, globose, dotted, attached to a central receptacle.

Grows in stiff, damp, clayey soils.

Flowers March—May.

3. ANCEPS.

S. scapo ancipiti, alato, simplici, subaphyl-	**Scape compressed, winged, simple, gen-**

lo; spatha subquadriflora, inæquali, floribus longiore; petalis mucronatis; foliis ensiformibus.

erally without leaves; spathe commonly 4-flowered, unequal, longer than the flowers; petals mucronate; leaves ensiform.

Sp. pl. 3. p. 579. Pursh 1. p. 31. Nutt. 1. p. 25.

This is generally considered as our common species, but all the plants which I have examined, and those which have been sent me under this name, all agree in character with the S. Bermudiana, so far at least as to have their spathes manifestly shorter than their flowers.

It is said to be smaller than the preceding species and its flowers to be much less conspicuous.

Grows in dry hills and pastures from Canada to Carolina. Pursh.

Flowers July—August. Pursh.

PENTANDRIA.

PASSIFLORA. Gen. Pl. 509.

Calyx 5-partitus. *Petala* 5, calyci inserta. *Nectarium* corona filamentosa. *Styli* 3. *Pepo* pedicellata.

Calyx 5-parted. *Petals* 5, inserted on the calyx. *Nectary* a filamentose crown. *Styles* three. *Fruit* (pepo or berry) pedicellate.

1. Incarnata.

P. foliis trilobis, serratis, lobis oblongis, acutis; petiolis biglandulosis; involucro triphyllo, foliolis lanceolatis glanduloso-

Leaves 3 lobed, serrate, lobes oblong, acute; petioles bearing 2 glands; involucrum 3 leaved, leaves lanceolate with glandular

dentatis; filis coronæ corolla longioribus.	teeth; rays of the crown longer than the corolla.

Sp. pl. 3. p. 621. Walt. p. 233. Mich. 2. p. 39. Pursh 2. p. 445. Nutt. 2. p. 78.

Root perennial, composed of thick, fleshy, creeping fibres, sometimes swelling into tubers. *Stem* herbaceous, voluble, sometimes climbing 20 to 30 feet high. *Leaves* alternate, finely pubescent along the veins, the lateral lobes unequal, the intermediate lanceolate, all serrate and slightly acuminate. *Petioles* about an inch long. *Tendrils* axillary, 6—8 inches long, spiral towards the summit. *Flowers* axillary, solitary, on a jointed peduncle 3—5 inches long. *Involucrum* situated near the joint of the peduncle; *leaflets* short, obovate, acuminate. *Calyx* 5-parted, pubescent; *segments* oval, slightly angled on the back with a projecting point near the summit. *Petals* 5, oval, as long as the calyx to the base of which they are attached, white. *Nectary* in a triple series, the 2 exterior composed of radiating filaments as long as, or longer than the corolla, forming a double crown, purple with a pale nearly white circle at some distance from the centre; the interior composed of short, erect, incarnate rays, surrounding the base of the pedicel of the germ. *Filaments* 5, about half an inch long, compressed, speckled, attached to the summit of the pedicel of the germ, united at base into a tube. *Anthers* incumbent, oblong. *Germ* superior, oval, pubescent, supported on a speckled pedicel nearly half an inch long. *Styles* 3, slightly recurved, thickened near the summit. *Stigmas* globose, viscid. *Berry?* oval, glabrous, about the size of an egg, covered with a leathery coat, pale yellow when ripe. *Seeds* very numerous, small, enveloped in a gelatinous edible pulp.

Grows in dry soils.

Flowers May to July.

2. LUTEA.

P. foliis cordatis, trilobis, obtusis, glabris; petiolis eglandulosis; pedunculis axillaribus, geminis; petalis calyce duplo angustioribus.	Leaves cordate, 3-lobed, obtuse, glabrous; petioles without glands; peduncles axillary, by pairs; petals much narrower than the calyx.

Sp. pl. 3. p. 615. Walt. 2. p. 23. Mich. 2. p. 37. Pursh 2. p. 444. Nutt. 2. p. 78.

Root perennial, composed of thick and somewhat fleshy fibres. *Stem* herbaceous, slender, climbing over small shrubs, a little hairy. *Leaves* small, obtusely 3 lobed, of a very pale green, smooth on the upper surface. *Peduncles* 1—2 inches long, each bearing a single flower. *Flowers* small, the *petals* and *nectary* of a greenish yellow colour. The *fruit* small.

Grows in close damp soils, very generally diffused over the country but not very common.

Flowers May—July.

OPLOTHECA. NUTTALL.

Calyx duplex, exterior diphyllus, truncatus; interior longior, monophyllus, 5 fidus, tomentosus. *Corolla* 0. *Utriculus* monospermus, calyce muricato inclusus.

Calyx double, the exterior two leaved, truncate; the interior longer, one leaved, 5 cleft, tomentose. *Corolla* 0. *Utriculus* one seeded, inclosed in the muricate calyx.

1. FLORIDANA.

Nutt. 2. p. 79.

Root perennial? *Stem* herbaceous, erect, sparingly branched towards the summit, pubescent, 3 to 4 feet high, tumid at the joints with long internodes. *Leaves* opposite, sessile, linear lanceolate, entire, a little scabrous on the upper surface, lanuginous underneath. *Flowers* in long compact spikes 1—3 inches long, forming a loose straggling terminal panicle. Exterior *Calyx* membranaceous, half the length of the interior—the interior ovate, slightly compressed, 5 cleft at the summit and covered with a cotton like tomentum. Staminiferous *tube* (Lepanthium) cylindric, bearing 5 stamens nearly as long as the interior calyx. *Seed* finally inclosed by the interior calyx which hardens and becomes muricated with 2 crested margins and 2 dorsal protuberances on each side near the base.

This plant which has been very acurately described by Mr. Nuttall, was first found by Dr. Baldwin in Florida. It grows very abundantly on the high pine ridges between the Flint and Chatahouchie rivers along the Federal road.

Flowers through the summer.

OCTANDRIA.

PISTIA. GEN. PL. 1112.

Calyx spatha tubulosa, cucullata, lingulata. *Corolla* 0. *Filamenta* lateralia, 3—8. *Capsula* 1 locularis, polysperma.	*Calyx* a tubular cuculate spathe, strap shaped. *Corolla* 0. *Filaments* lateral, 3—8. *Capsule* 1 celled, many seeded.

1. SPATHULATA. Mich.

P. foliis in petiolum abrupte angustatis, superne dilatatis, rotundato obtusis.	Leaves abruptly narrowed into a petiole, dilated, round and obtuse towards the summit.

Mich. 2. p. 162. Pursh 1. p. 268. Nutt. 2. p. 80.

A floating aquatic. *Leaves* all radical, expanded in a circle. *Flowers* axillary, subsessile, solitary, white. Nuttall.

This plant, which is said to grow in the stagnant waters and streams of Florida and the southern parts of Georgia, I have not seen.

Flowers through the whole summer.

DECANDRIA.

GERANIUM. GEN. PL. 1118.

Calyx 5 phyllus. *Petala* 5 regularia. *Stamina* 10. *Stig-*	*Calyx* 5 leaved. *Petalr* 5 regular. *Stamens* 10. *Stigmas* 5.

mata 5. *Arilli* 5, monospermi, aristati.

Arilli 5, one seeded, awned.

1. CAROLINIANUM.

G. diffusum, pubescens; foliis oppositis, 5-lobis, lobis trifido-incisis; pedunculis bifloris; petalis emarginatis, longitudine calycis, aristatis; arillis villosis.

Diffuse, pubescent; leaves opposite, 5 lobed, lobes three cleft; peduncles two flowered; petals emarginate as long as the calyx, awned; arils villous.

Sp. pl. 3. p. 711. Walt. p. 175. Mich. 2. p. 38. Pursh 2. p. 449. Nutt. 2. p. 80.

Root annual, fusiform. *Stem* procumbent and assurgent, di and trichotomously divided, pubescent with the hairs reflected. *Leaves* opposite at the division of the stem, 5—7 lobed, the lobes generally 3 cleft and the segments again notched and divided, the margins of the leaves as well as the stem are frequently tinged with purple. *Petioles* 4—6 inches long. *Stipules* 2, subulate, at the base of each petiole. *Flowers* in the division of the stem. *Peduncles* 2—4 inches long, 2 flowered. *Calyx* 5 leaved, angled, persistent; leaves ovate, 3 nerved, fringed and mucronate. *Petals* obovate, emarginate, hairy at base, pale purple, as long as the calyx. *Stamens* 10, about half as long as the corolla, 5 exterior and a little shorter than the others; all slightly united at base but scarcely monadelphous. *Nectary?* 2 yellow glands at the base of each shorter filament. *Germ* superior, very villous. *Styles* 5? united. *Stigmas* 5, thick, oblong. *Arilli* black, hairy, mucronated with the straight persistent style. *Seeds* 2 in each arillus, oval.

Grows in all cultivated grounds very abundantly.
Flowers from March to May.

2. MACULATUM.

G. erectum, retrorsum pubescens; caule dichotomo; foliis oppositis 3—5 partitis, incisis; pedunculis e-

Erect, retorsely pubescent; stem dichotomous; leaves opposite, 3—5 parted, notched; peduncles

longatis bifloris; petalis obovatis.	long,2flowered; petals obovate.

Sp. pl. 3. p. 705. Walt. p. 175. Mich. 2. p. 38. Pursh 2. p. 448. Nutt. 2. p. 80.

Root tuberous, perennial. *Stem* 6—12 inches high, sparingly divided, pubescent with the hairs reflected. Root *leaves* on long petioles; stem leaves opposite, the upper pair nearly sessile; all 5 parted, the lobes obovate, notched and toothed, pubescent. *Peduncles* few, terminal, 2 flowered. *Calyx* hairy, conspicuously mucronate. *Corolla* purple. *Petals* twice as long as the calyx, not emarginate.

The flowers of this species are conspicuous and ornamental.

Grows in the rich oak lands of the upper country.

Flowers April—May.

SCHRANKIA. Willd.

Calyx tubulosus, 5 dentatus. *Petala* 5. *Stamina* 8—10 exerta. *Siliqua* 4 valvis.	*Calyx* tubular, 5 toothed. *Petals* 5. *Stamens* 8—10 exserted. *Pod* 4 valved.

1. Uncinata.

Sp. pl. 4. p. 1043. Pursh 1. p. 305. Nutt. 2. p. 81.
Mimosa Intsia. Walt. p. 252.
Mimosa horridula. Mich. 2. p. 254.

Root perennial. *Stem* herbaceous, prostrate, 2—3 feet long, angled, thickly armed with retrorse uncinate prickles. *Leaves* alternate, abruptly bipinnate. Common *petioles* about 3 inches long, angled, prickly and glabrous like the stem, pinnate, opposite. *Leaflets* small, nearly elliptic, gibbous at base, thinly sprinkled with hair, irritable, closing at the touch as quickly and as completely as any species of the Mimosa. *Flowers* numerous, aggregated in spherical heads. *Peduncles* in pairs, axillary, from 1—2 inches long, prickly like the stem. *Calyx* very minute, 5 toothed. *Corolla* tubular, small, but many times longer than the calyx, 5 cleft, of a bright purple. *Stamens* generally about 10, 2—3 times as long as the corolla, slightly cohering at base. *Anthers* incumbent, 2 lobed, somewhat elliptic, yellow. *Germ* superior, long, slender. *Style* as long as the stamens. *Stigma* simple. *Legumen* oblong, prickly, 4 valved. *Seeds* several in each valve.

Grows in dry sandy pine barrens.

Flowers from May—July,—perhaps through the summer.

POLYANDRIA:

SIDA. Gen. Pl. 1129.

Calyx simplex, angulatus. *Stylus* multipartitus. *Capsulæ* plures, 1—3 spermae.

Calyx simple, angled. *Style* many parted. *Capsules* numerous, 1—3 seeded.

1. Gracilis. E.

S. caule gracili, glabro; foliis linearibus serratis; pedunculis solitariis, axillaribus,longitudine petiolorum; capsulis (10) bicornibus, glabris.

Stem slender, glabrous; leaves linear, serrate; peduncles solitary, axillary, as long as the petioles; capsules (10) two horned, glabrous.

Root fibrous, perennial. *Stem* herbaceous, 2—3 feet high, glabrous, sparingly branched and with the branches very slender. *Leaves* alternate, obtuse at base, glabrous, sometimes sprinkled with a few hairs; the lower ones narrow, lanceolate. *Petioles* 4—8 lines long, pubescent. *Stipules* linear, as long as the petioles. *Calyx* 1 leaved, angled, persistent, a little hairy, 5 cleft. *Petals* 5, expanding, striate, yellow, obovate with the summit obliquely sinuate. *Staminiferous column* short, pubescent, many cleft; *segments* 3—4 lines long. *Anthers* incumbent. *Germs* superior, depressed, glabrous. *Style* as long as the stamens, many cleft. *Stigmas* capitate. *Capsules* 10, united in a depressed spherical head, glabrous. *Seed* 1 in each capsule, reniform.

Grows in sandy soils upon the Sea Islands. Common about Beaufort. Flowers August—September.

2. Hispida.

S. hispido-pilosa; foliis lanceolatis, serratis; pedunculis soli-

Hispid; leaves lanceolate, serrate; peduncles solitary, axil-

tariis, axillaribus, longitudine petiolorum; calyce exteriore filiformi. Pursh 2. p. 452.

lary, as long as the petioles; exterior calyx filiform.

Among the undetermined specimens in my herbarium, I have one which may possibly belong to this species.

Root perennial? *Stem* 12—18 inches high, branching, tomentose rather than hispid, pubescence stellular. *Leaves* lanceolate, somewhat rhomboidal, serrate, a little hairy on both surfaces, on petioles 1—2 lines long. *Flowers* on small axillary branches, so crowded and so nearly sessile that though strictly solitary on each axil, they appear fasciculated. *Stipules* subulate, hairy, longer than the petioles or peduncles. *Calyx* angular, hairy. *Petals* yellow, a little longer than the calyx.

The mature capsule I have not seen,

This plant has no exterior calyx, but in the dried specimens the stipules are very often found adhering to the calyx as if connected with it.

Grows in sandy soils.

Flowers July—August.

3. Rhombifolia.

S. foliis oblongo-lanceolatis, dentatis, basi cuneiformibus, integerrimis; pedunculis petiolis multo longioribus; capsulis bicornibus.

Leaves oblong, lanceolate, toothed, cuneate and entire at base; peduncles much longer than the petioles; capsules two horned.

Sp. pl. 3. p. 740. Mich. 2. p. 43. Pursh 2. p. 452. Nutt. 2. p. 81.

Root perennial, stoloniferous. *Stem* suffruticose, 1—2 feet high, branching, covered as well as the under surface of the leaves with a stellular pubescence. *Leaves* in alternate clusters, a little hairy on the upper surface slightly glaucous underneath. *Petioles* 2—3 lines long. *Stipules* setaceous, as long as the petioles. *Flowers* axillary, in general solitary. *Peduncles* 2—3 inches long. *Calyx* 5-angled, pubescent, persistent, 5-cleft. *Petals* obovate, yellow, about an inch long. *Staminiferous column* scarcely half as long as the corolla. *Style* as long as the stamens. *Capsules* about 12, aggregated in a depressed spherical head. *Seed* 1 in each capsule.

Grows in dry pastures.

Flowers from July—October.

4. Spinosa.

S. caule patulo, axillis subspinosis; foliis cordato-ovatis, dentatis; pedunculis solitariis, axillaribus; stipulis setaceis, pedunculo longioribus; capsulis birostratis.	Branches expanding, with the axils somewhat spiny; leaves cordate ovate, toothed; peduncles solitary, axillary; stipules setaceous, longer than the peduncles; capsules two horned.

Sp. pl. 3. p. 736 Walt. p. 176. Mich. 2. p. 43. Pursh 2. p. 452.

Root annual? *Stem* 1—2 feet high, branching, pubescent. *Leaves* alternate, ovate, very obtuse or cordate at base, coarsely serrate, pubescent, particularly on the under surface. *Petioles* about an inch long. *Stipules* setaceous, erect. *Flowers* axillary, solitary. *Peduncles* 1—2 lines long. *Calyx* angled, pubescent. *Tube* short; border deeply 5-cleft. *Petals* obovate, yellow, scarcely longer than the calyx. *Staminiferous column* about half as long as the corolla. *Style* longer than the stamens, 5-cleft. *Capsules* 5, with 2 erect beaks, hairy on the angles, united in an ovate head.

I have seen nothing in this plant, as growing with us or in the specimens that have been sent me, which could authorise the trivial name of Spinosa.

Grows in sandy soils.

Flowers May—July.

5. Crispa.

S. foliis oblongo-cordatis, acuminatis, crenatis, summis sessilibus; pedunculis solitariis, petiolo longioribus, fructiferis deflexis; capsulis inflatis, muticis, undulato-crispis.	Leaves oblong, cordate, acuminate, crenate, the upper ones sessile; peduncles solitary, longer than the petiole, deflected when in fruit; capsules inflated, unawned, waved and curled.

Sp. pl. 3. p. 747. Pursh 2. p. 453.

With this plant I am unacquainted. *Flowers* white, small. Pursh.

Grows on the sea coast of Carolina. Pursh.
Flowers July to September.

6. Abutilon,

S. foliis subrotundo-cordatis, acuminatis, dentatis, tomentosis; pedunculis solitariis, petiolo brevioribus; capsulis biaristatis, truncatis.

Leaves cordate, nearly orbicular, acuminate, toothed, tomentose; peduncles solitary, shorter than the petiole; capsules two awned, truncate.

Sp. pl. 3. p. 750. Pursh 2. p. 453.

Root annual. *Stem* erect, 2—6 feet high, branching, covered like the leaves with a very soft tomentum. *Leaves* alternate, nearly orbicular, acuminate, deeply cordate, crenulate, 4—6 inches in diameter. *Petioles* 4—6 inches long, pubescent. *Stipules* subulate, caducous. *Peduncles* axillary, solitary, 3-flowered, sometimes compoundly 3-flowered, generally maturing only the fruit of one flower. *Peduncles* 1—1 1-2 inches long, pointed towards the summit. *Bracteas* two at each joint, lanceolate, acuminate, 3—4 lines long, caducous. *Calyx* somewhat campanulate, scarcely angled. *Petals* obovate, obliquely emarginate, a little longer than the calyx. *Staminiferous tube* shorter than the corolla, many parted. *Style* pubescent, as long as the stamens, many (12—14) parted. *Capsules* 12—14, hairy, conspicuously 2-horned, collected into a campanulate head. *Seeds* 3 in each capsule, reniform, glabrous.

Grows in the middle country of Carolina and Georgia, very luxuriantly in the river swamps near Granby, S. C.
Flowers May July.

MALVA. Gen. Pl. 1134.

Calyx duplex, exterior 3-phyllus. *Petala* 5. *Capsulæ* plurimæ, evalves, 1-spermæ.

Calyx double, the exterior 3-leaved. *Petals* 5. *Capsules* numerous, without valves, one seeded.

1. ROTUNDIFOLIA.

M. caule prostrato; foliis cordato-orbiculatis, obsolete 5-lobis; pedunculis fructiferis declinatis.	Stem prostrate; leaves cordate, orbicular, obscurely 5-lobed; peduncles declining when in fruit.

Sp. pl. 3. p. 786. Pursh 2. p. 454.

Root perennial. *Stem* procumbent, 1—2 feet long, hairy. *Leaves* alternate, nearly round, cordate, 5—7 lobed, a little hairy; lobes very obtuse. *Petioles* 5—8 inches long, when young almost hispid. *Flowers* in small axillary clusters. *Peduncles* 4—6 lines long. Exterior *Calyx* 3-leaved; leaves subulate, as long as the interior. Interior 1-leaved, 5-cleft both hairy. *Corolla* white, scarcely longer than the calyx. *Staminiferous tube* and *style* shorter than the corolla. *Style* many cleft. *Capsules* numerous, collected in a flattened orbicular head. *Seeds* 1 in each capsule.

An exotic becoming naturalized in our country.
Grows about buildings.
Flowers May to July.

2. CAROLINIANA.

M. foliis 5-lobis palmatisve, inciso-dentatis; pedunculis petiolo longioribus; petalis integris; fructu villoso; caule prostrato.	Leaves 5-lobed or palmate, notched and toothed; peduncles longer than the petioles; petals entire; fruit villous; stem prostrate.

Sp. pl. 3. p. 784. Walt. p. 176. Mich. 2. p. 44. Pursh 2. p. 454.

Root annual? *Stem* prostrate, branching, a little hairy. *Leaves* alternate, very obtuse or cordate at base, 3—5 lobed, with the lobes variously dissected, a little hairy. *Stipules* 2 at the base of each petiole, small, ovate-lanceolate, ciliate when young. *Flowers* axillary, solitary. *Peduncles* about an inch long. Exterior *Calyx* 3-leaved; leaves linear, lanceolate, shorter than the interior calyx. Interior calyx 1-leaved, somewhat campanulate, 5-cleft, both hairy. *Petals* 5, spathulate, nearly round at the summit, red and longer than the calyx. *Staminiferous column* short. *Anthers* 12—15. *Germ* very hairy. *Style* as long as the stamens, many cleft, 15—20. *Stigmas* globose, dark red. *Capsules* numerous, 15—20, hispid, 2-horned, united in a truncated head. *Seeds* 2 in each capsule, compressed, nearly round, emarginate at base.

Grows very common about buildings and in rich soils.

Flowers April—June.

3. Abutiloides.

M. foliis 5-angulari-lobatis, tomentosis; pedunculis sub-4-floris, bifidis, axillaribus; capsulis polyspermis.	Leaves with 5 angular lobes, tomentose; peduncles 2 cleft, generally 4-flowered, axillary; capsules many seeded.

Sp. pl. 3. p. 780. Pursh 2. p. 454.

This plant, a native of the Bahama Islands, I have never seen growing in an indigenous state in this country. I believe it is sometimes cultivated in gardens.

MALOPE. Gen. Pl. 1136.

Calyx duplex, exterior 3-phyllus. *Capsulæ* absque ordine glomeratæ, monospermæ.	*Calyx* double, the exterior 3-leaved. *Capsules* clustered without order, one seeded.

1. Malacoides.

M. foliis oblongis, obtusis, integris, crenatis, supra glabris; pedunculis solitariis, axillaribus.	Leaves oblong, obtuse, entire, crenate, glabrous on the upper surface; peduncles solitary, axillary.

Gen. Pl. 1136. Walt. 176. Pursh 2. p. 455. Nutt. 2. p. 82.

Plant annual, 12—18 inches high, sparingly branched. *Stem* nearly covered towards the summit with white transparent hair. *Leaves* ovate, dentate, very obtuse at base, nearly glabrous on the upper surface, hairy along the veins underneath. *Petioles* about an inch long. *Flowers* axillary, solitary. *Stipules* lanceolate, hairy. *Peduncles* 2—3 lines long. Exterior *Calyx* setaceous, nearly as long as the interior. Interior 5-cleft, both hairy. *Petals* about twice as long as the calyx, yellow. *Staminiferous tube* and *style* about as long as the calyx. *Capsules* hispid, collected in a depressed globular head. *Seeds* 1 in each capsule, compressed, emarginate at base.

This is the plant which has been referred to by Mr. Nuttall as seen in my herbarium. I have little doubt that it is the plant described as a Malope by Walter. I must however add that a specimen sent to me from Pennsylvania by Dr. Muhlenberg, as the Malva Americana, is unquestionably the same plant; it certainly is not the Malva Americana of Willdenow although it apparently belongs to that genus. I did not however examine the only living plant I have seen with sufficient care to enable me now to arrange it with any thing like certainty.

Grows probably near the mountains from Pennsylvania to Carolina.—The plant I saw sprung up in a box, where seeds from the central Districts of Virginia had been planted, in soil dug from the pastures around Charleston.

HIBISCUS.

Calyx duplex, exterior polyphyllus. *Petala* 5. *Capsulæ* 5-loculares, polyspermæ.	*Calyx* double, the exterior many leaved. *Petals* 5. *Capsules* 5-celled, many seeded.

1. Moscheutos.

H. foliis ovatis, acuminatis, serratis, subtrilobis, sub-5-nervibus, subtus incano-tomentosis; petiolis floriferis; calycibus tomentosis; capsulis glabris.	Leaves ovate, acuminate, serrate, generally 3-lobed and 5-nerved, hoary and tomentose underneath; petioles bearing the flower; calyx tomentose; capsules glabrous.

Sp. pl. 3. p. 806. Mich. 2. p. 47. Pursh 2 p. 455. Nutt. 2. p. 82.

Root perennial. *Stem* as in all the rest of the species, herbaceous or suffruticose, erect, 4—6 feet high, branching, a little rough, and purple.

Leaves as in all of the genus alternate, ovate, acuminate, entire, obtusely toothed, 3-nerved, cordate; above sprinkled with short hair, underneath tomentose and glaucous. *Petioles* 1—2 inches long. *Flowers* growing towards the summit of the stem, solitary, axillary, attached to the petiole. The proper *peduncle* about an inch long, pubescent. The petiole after the junction of the peduncle, dilated and obtusely winged. *Calyx* persistent,pubescent; the exterior 15 leaved, leaves subulate, acute, about half as long as the interior calyx: the interior 1-leaved, campanulate, 5-parted, with the segments acuminate and nerved. *Petals* obovate, white, with a purple base, pubescent on the outer surface, 3—4 inches long. The *staminiferous column* 1—2 inches long, furrowed, toothed at its naked summit. Proper *Filaments* 4—6 lines long, growing by pairs. *Germ* superior, ovate, glabrous, 5-furrowed. *Style* shorter than the corolla, 5-cleft at the summit. *Stigmas* nearly spherical, glandular, white. *Capsule* ovate, 5-celled, 5-valved. *Seeds* many in each cell, obovate.

Grows on the margins of ponds.

Flowers from June to September.

2. PALUSTRIS.

H. foliis lato-ovatis, obtuse-serratis, subtrilobis, 3-nervibus, subtus tomentosis; pedunculis axillaribus, petiolo longioribus.	Leaves broad, ovate, obtusely serrate, generally 3-lobed, 3-nerved, tomentose underneath; peduncles axillary, longer than the petiole.

Sp. pl. 3. p. 808. Walt? p. 176. Pursh 2. p. 455. Nutt. 2. p. 82.

Plant 3—4 feet high. *Leaves* rather broader than in the preceding species, more generally angled or 3-lobed, glaucous underneath and conspicuously acuminated. *Flowers* rather smaller than the H. Moscheutos, (purple. Pursh.) inserted in the base of the petiole.

I feel doubtful whether Walter ever saw the real H. Palustris, and whether his H. Moscheutos and Palustris are distinct species. This species has never occurred to me in the low country of Carolina, and Pursh speaks of it as a Northern plant.

Grows in wet soils.

Flowers July—September.

3. GRANDIFLORUS.

H. foliis amplis, coriaceis, cordatis, trilo-	Leaves large, coriaceous, cordate, 3-lo-

bis, utrinque tomentosis, subtus incanis; capsulis tomentosis, subtruncatis.	bed, tomentose on both surfaces, hoary underneath; capsules tomentose, slightly truncated.

Mich. 2. p. 46. Pursh 2. p. 455. Nutt. 2. p. 82.

Stem 5—7 feet high. *Leaves* very large, 3-lobed, covered with a soft, velvet like tomentum, glaucous on both surfaces though more conspicuously so on the under. *Petioles* 6 inches long. *Peduncles* axillary, 2—4 inches long, jointed, inserted at the base of the petiole. *Calyx* like the leaves covered with a fine tomentum; the exterior 12 leaved. *Petals* nearly 6 inches long, obovate, ribbed, finely reticulate, flesh coloured, with a deep red base. *Seeds* as in all of the species, numerous in each cell and generally attached in 2 rows to a central receptacle.

Grows around ponds in the Southern parts of Georgia.

Flowers July—September.

4. INCANUS.

H. foliis ovatis, acuminatis, obtuse serratis, utrinque incano-tomentosis; pedunculis axillaribus; calycibus tomentosis, subæqualibus.	Leaves ovate, acuminate, obtusely serrate, hoary and tomentose on both surfaces; peduncles axillary; calyxes tomentose, nearly equal.

Sp. pl. 3. p. 807. Pursh 2. p. 455.

This species, which is said to have been discovered by Bartram, has I believed escaped the notice of all recent botanists.

5. VIRGINICUS.

H. undique tomentosus; foliis acuminatis, inæqualiter dentatis, cordatis, inferioribus indivisis, supe-	Tomentose; leaves acuminate, unequally toothed, cordate, the lower undivided, the upper oblong, 3-lobed;

rioribus oblongis, trilobis; racemo terminali; floribus cernuis; pistillis nutantibus.

racemes terminal; flowers cernuous; pistills nodding.

Sp. pl 5. p. 830. Mich. 2. p. 46. Pursh 2. p. 456.
H. Clypeatus. Walt. 177.

Stem 2—4 feet high, and with the leaves tomentose and scabrous, the lower and upper leaves cordate, ovate, acuminate, the intermediate and fully grown 3-lobed, the lateral lobes short and slightly angled, the petioles 1—4 inches long. *Flowers* in paniculate racemes. *Peduncles* about 2 inches long. *Calyx* tomentose, the exterior 8 or 9 leaved, leaves subulate and very narrow. *Petals* about 2 inches long, bright purple, fringed and hairy on the outer surface. *Capsule* hispid, 5-angled, with the angles acute.

Grows in wet soils, very common on the Islands near the ocean.
Flowers July—September.

6. Carolinianus. Muhl?

H. foliis cordato ovatis, acuminatis, serratis, utrinque lævibus, interdum lævissime trilobis; floribus purpureis; seminibus hispidis. E.

Leaves cordate, ovate, acuminate, serrate, smooth on both surfaces, sometimes slightly 3-lobed; flowers purple; seeds hispid.

Stem 4—6 feet high, smooth. *Leaves* large, sometimes 6 inches long, obscurely 3-lobed when old, veins prominent on the under surface. *Petioles* as long as the leaves. *Flowers* axillary. *Peduncles* 2—3 inches long, slightly adhering to the petioles. *Calyx* a little scabrous, the exterior 12 leaved. *Petals* 4 inches long, smooth on the outer surface and pubescent on the inner. *Capsule* nearly round, hairy on the inside. *Seeds* obovate, a little angled, hispid with short rigid hair.

This plant was raised in my garden from seeds collected by Mr. Oembler on Wilmington Island, Georgia.
Flowers July—September.

7. Militaris.

H. glaberrimus; foliis 3-lobo-hastatis, a-

Glabrous; leaves 3 lobed, hastate, acumi-

cuminatis serratis; corolla tubulato-campanulata; capsulis ovatis, acuminatis, glabris; seminibus holosericeis.

nate, serrate; corolla tubular, slightly campanulate; capsules ovate, acuminate, glabrous; seeds silken.

Sp. pl. 3. p. 808. Pursh 2. p. 456.
H. Virginicus. Walt. 177.
H. Hastatus. Mich. 2. p. 45.

Root perennial. *Stem* herbaceous, smooth, 3—4 feet high, branching. *Leaves* at first ovate lanceolate, afterwards hastate,serrate,the middle lobe long and acuminate. *Petioles* long, terete. *Flowers* solitary, axillary. *Peduncles* about 2 inches long, jointed. Exterior *Calyx* 10-leaved, leaves subulate; the interior 5-cleft. *Petals* about 3 inches long, obovate, finely pubescent, of a pale rose colour, with a red base. *Staminiferous column.* about 2 inches long, 5-cleft at the summit. Proper *Filaments* frequently forked. *Style* 5-cleft at the summit, a little hairy. *Capsule* ovate, 5-valved, 5-celled, glabrous, hairy within. *Seeds* obovate, hispid.

Grows along the margin of rivers in the middle and upper country, found though rarely in the swamps near Savannah.

Flowers July—September.

8. SCABER.

H. caule scabro; foliis infimis cordatis, angulatis, superioribus palmatis, 3—5 lobis; calycibus hispidissimis.

Stem scabrous; lower leaves cordate, angled, the upper palmate, 3—5 lobed; calyxes very hispid.

Mich. 2. p. 45. Pursh 2. p. 457.
H. Aculeatus. Walt. 177

Root perennial. *Stem* about 3 feet high, very scabrous, covered as well as the leaves, petioles, peduncles and calyx with small glands frequently coloured, from which proceed rigid hair. The early *Leaves* are said by Walter to be angular, cordate and serrate—the upper are deeply 3 or 5 lobed, with the margins of the lobes irregularly dentate and angled. *Petioles* 1—2 inches long. *Flowers* solitary, axillary. *Peduncles* 2—3 lines long,not adhering to the petioles. Exterior *Calyx* 12-leaved, leaves subulate, 2 cleft at the summit; the interior calyx twice as long as the exterior, 5-cleft, the segments 3 ribbed. *Petals* about 3 inches long, hairy on the outer surface, yellow with a bright purple base. *Staminiferous column.* bright purple. *Style* and *Stigmas* yellow. *Capsule* hairy.

Grows in damp clayey soils.

Flowers from June to September.

9. Speciosus. Ait.

H. glaberrimus, foliis palmatis, 5-partitis, laciniis lineari-lanceolatis, acuminatis, remote-serratis; corolla patula.

Very glabrous; leaves palmate, 5-parted, the segments linear lanceolate, acuminate, distantly serrate; corolla expanding.

Sp. pl. 3. p. 822. Mich. 2. p. 47. Pursh. 2. p. 456.
H. Coccineus. Walter 177. Bart.

Stem 4—6—7 feet high, branching. *Leaves* alternate, cordate, deeply divided, the lobes irregularly toothed, the veins generally coloured. *Petioles* 4—8 inches long, tinged with purple. *Stipules* very small, setaceous. *Flowers* solitary, axillary. *Peduncles* 3—4 inches long, jointed near the summit. Exterior *calyx* 12—15 leaved; leaves subulate, a little shorter than the interior. *Petals* 4—5 inches long, obovate, a little pubescent near the base, of a deep red colour. *Staminiferous column* nearly as long as the petals. *Capsule* glabrous, ovate, acute and somewhat angled. *Seeds* pubescent.

I know not why the name of Bartram and Walter has been superseded, it is at least as appropriate as that of Aiton.

Found in damp soils in Florida and perhaps in the southern parts of Georgia. It is enumerated by Walter among the plants of Carolina, but I have never seen it in the woods, although it is a common inhabitant of our gardens.

Flowers from July to September.

GORDONIA. Gen. Pl. 1144.

Calyx 5-phyllus. *Petala* 5, basi connata. *Stylus* 5-gonus, *Stigmate* 5-fido. *Capsula* 5-locularis. *Receptaculum* centrale, columnare. *Semina* bina, ala foliacea.

Calyx 5-leaved. *Petals* 5, connate at base. *Style* 5-angled. *Stigma* 5-cleft. *Capsule* 5-celled. *Receptacle* central, columnar. *Seeds* two, winged.

1. LASIANTHUS.

G. foliis lanceolato oblongis, glaberrimis, nitidis, coriaceis; floribus longe pedunculatis; capsulis conoideis, acuminatis.	Leaves lanceolate, oblong, very glabrous, shining, coriaceous; flowers on long peduncles; capsules conical, acuminate.

Sp. pl. 3. p. 840. Walt. p. 177. Mich. 2. p. 44. Pursh 2. p 451.

A tree sometimes growing to 60—80 feet in height. *Leaves* alternate, long, lanceolate, serrate, glabrous, lucid, coriaceous, perennial. *Petioles* scarcely half an inch long. *Flowers* solitary, axillary towards the summit of the branches. *Peduncles* 2—3 1-2 inches long, furnished towards the summit with 2 or 4 caducous scales. *Calyx* 5-leaved, persistent; leaves ovate, nearly round, fringed and covered with a velvet like pubescence. *Petals* 5, obovate, united at base with a staminiferous tube, the exterior ones fringed on the outer surface. *Stamens* very numerous, not half as long as the corolla, inserted on a 5-lobed tube. *Anthers* incumbent, yellow. *Germ* superior, ovate, slightly angled. *Style* as long as the stamens. *Stigma* 5-cleft. *Capsule* ovate, acuminate, 5-celled, 5-valved.

This tree, which when young is one of the handsomest in our forests, begins to decay from the summit at a very early age. It is remarkable for the superficial direction of its roots which appear to spread almost entirely on the surface of the ground. The bark is said to be nearly, if not quite equal to that of the oak for the uses of the tanner, and its wood resembles mahogany in colour, but its grain is rather too coarse to be used for fine articles of fnrniture.

Grows in springy lands,in shallow swamps, and particularly in what are called turfy soils.

Flowers from May to August.

2. PUBESCENS.

G. foliis cuneato, lanceolatis, serrulatis, subtus pubescentibus, deciduis; capsulis sphericis.	Leaves cuneate, lanceolate, serrulate, pubescent underneath, deciduous; capsules spherical.

A tree 40—50 feet high, spreading more widely than the G. Lasianthus, the young branches very smooth and finely pubescent at the summit. *Leaves* sessile, glabrous and lucid on the upper surface, pubescent underneath. *Flowers* solitary, axillary, on short thick peduncles. Leaves of the calyx rounded, covered with a silky tomentum. *Corolla* white, externally pubescent, segments obovate, slightly undulate. *Stamens* very numerous, unequal, inserted into the thickened base of the corolla. *Filaments* about one third the length of the corolla, orange coloured. *Anthers* erect, yellow. *Germ* villous. *Style* short. *Capsule* nearly globular, 5-celled.

The habitat of this tree appears to be very limited, a few trees were found by Bartram near Fort Barrington on the Altamaha, and from the same spot all the plants now in the gardens have been derived.

Flowers through the summer.

STUARTIA. GEN. PL. 1142—1143.

Calyx 5 partitus. *Petala* 5. *Stigma* capitatum, sub 5-lobum. *Capsula* 5-locularis, 5-valvis, valvulis medio septiferis. *Semina* 1—2, ossea.

Calyx 5-parted. *Petals* 5. *Stigma* capitate, somewhat 5-lobed. *Capsule* 5-celled, 5-valved, the valves bearing the partitions in the middle. *Seeds* 1—2, bony.

1. VIRGINICA.

S. foliis ovatis, acuminatis; floribus axillaribus subbinis; calycibus ovatis, obtusis; petalis integris; stylis coalitis.

Leaves ovate, acuminate; flowers axillary, generally in pairs; calyx ovate, obtuse; petals entire; styles united.

Mich. 2. p. 43. Pursh 2. p. 451. Nutt. 2. p. 84.
S. Malachodendron. Sp. pl. 3. p. 840. Walt. 176.

A handsome shrub 6–12 feet high, with branches a little geniculate and when young pubescent. *Leaves* lanceolate, acuminate, serrate, very pubescent on the under surface. *Petioles* 2—3 lines long. *Flowers* nearly sessile, axillary, generally solitary though sometimes by pairs. *Bracteas* 2 at the base of the calyx, ovate, acuminate, covered like the calyx with a silken pubescence. *Calyx* 1-leaved, campanulate, persistent, 5-cleft with the segments mucronate. *Petals* 5, obovate, erose, a little hairy, white and united at base with a staminiferous tube. *Stamens* much shorter than the corolla, hairy at base, bright purple. *Germs* superior, ovate, hairy, tapering to a short style. *Stigma* capitate, 5-lobed. *Capsule?* globose, hairy, resembling a juiceless pome, very austere to the taste, 5-celled. *Seeds* 2 in each cell.

Grows in dry rich soils.

Flowers April—May.

2. PENTAGYNA.

S. foliis ovatis acuminatis; floribus axillaribus, solitariis; calycibus lanceolatis, calyculatis; petalis undulato incisis; stylis distinctis.

Leaves ovate, acuminate; flowers axillary, solitary; calyx lanceolate, calyculate; petals waved and notched; styles distinct.

Sp. pl. 3. p. 840. Pursh 2. p. 452. Nutt. 2. p. 84.
Malachodendron ovatum. Mich. 2. p. 43.

This species, which on account of its 5 styles has been proposed as a distinct genus, appears too nearly allied to the preceeding to be separated from it. In its general habit and appearance it closely resembles the S. Virginica, its flowers however are rather larger, and of a cream colour rather than white.

Grows in the mountains of Carolina and Georgia.

Flowers May—July.

HOPEA. GEN. PL.

Calyx 5-fidus, superus. *Petala* 5. *Stamina* plurima, in 5 phalanges connata. *Stylus* 1. *Drupa* nuce triloculari.

Calyx 5-cleft, superior. *Petals* 5. *Stamens* numerous, collected in 5 phalanxes. *Style* 1. *Drupe* with a 3 celled nut.

1. TINCTORIA. Lin. Mant. 105.

Walt. p. 189. Mich. 2. p. 42. Pursh 2. p. 451. Nutt. 2. p. 83.
Symplocos Tinctoria. Willd. Sp. pl. 3. p. 1436.

A small tree, rarely exceeding 15—18 feet in height, and frequently not growing beyond the size of common shrubs. *Stem* erect, branches expanding, smooth, generally trichotomous. *Leaves* alternate, crowded near the summit of the branches, lanceolate, somewhat acuminate, serrulate, smooth and lucid on the upper surface, a little glaucous and pubescent underneath. *Petioles* about half an inch long. *Flowers* sessile, in axillary clusters, 6—14 in each cluster, 4 or more obtuse scales clothe the base of each calyx. *Calyx* 1-leaved, campanulate, rather perigynous than superior. *Petals* 5, oval, yellow, 5 times as long as the calyx. *Filaments* numerous, united into 5 phalanxes, 5—7 in each phalanx, longer than the corolla. *Germ* clothed at base with the calyx, 5 at the summit. *Style* as long as the stamens. *Stigma* capitate.

This tree appears to ripen its fruit very sparingly in the low country, its leaves afford a yellow dye, are very sweet, and as they are nearly perennial they are eaten with avidity by cattle and horses during the winter season.

Grows in all rich soils not liable to inundation.

Flowers in March.

CLASS XVII.

DIADELPHIA.

PENTANDRIA.

421 PETALOSTEMUM,

HEXANDRIA.

422 DICLYTRA,
423 CORYDALIS,
424 FUMARIA,

OCTANDRIA.

425 POLYGALA,

DECANDRIA.

§ 1. Stamens all connected, monadelphous.

426 AMORPHA,
427 ERYTHRINA.
428 LUPINUS,
429 CROTOLARIA,

§ 2. Stamens diadelphous.

* *Legume mostly 1-seeded.*

430 DALEA,
431 PSORALEA,
432 MELILOTUS,
433 TRIFOLIUM,
434 STYLOSANTHES,
435 LESPEDEZA.

** *Legume many seeded, generally articulated.*

436 HEDYSARUM,
437 ZORNIA,
438 ÆSCHYNOMENE,
439 SESBANIA,

*** *Legume many seeded. Stigma pubescent.*

440 LATHYRUS,
441 VICIA,
442 PHACA,
443 ASTRAGALUS,

**** *Legume many seeded, 1-celled, not included in the preceeding sections.*

444 PHASEOLUS,
445 STROPHOSTYLES,
446 DOLICHOS,
447 APIOS,
448 AMPHICARPA,
449 GLYCINE,
450 THYRSANTHUS,
451 GALACTIA,
452 CLITORIA,
453 ROBINIA,
454 INDIGOFERA,
455 TEPHROSIA,
456 MEDICAGO.

PETALOSTEMUM. Mich.

Petala 4, staminibus interjecta utraque in tubum fissum connata; vexillum nullum, ejus loco quintum petalum. *Legumen* calyce tectum, 1-spermum.

Petals 4, alternating with the stamens and united with them in a cloven tube, a fifth petal occupying the place of the vexillum. *Legumen* 1-seeded, cloathed with the calyx.

1. CARNEUM.

P. spica cylindrica, pedunculata; bracteis subulatis, longitudine calycis; calycibus glabris; foliolis lanceolatis.	Spike cylindric, pedunculate; bracteas subulate, as long as the calyx; calyx glabrous; leaflets lanceolate.

Mich. 2. p. 49. Pursh 2. p. 461. Nutt. 2. p. 85.

Root perennial. *Stem* 2—3 feet high, glabrous. *Leaves* in alternate fasciculate clusters, pinnate, generally with three pair of leaflets and an odd one. *Leaflets* linear lanceolate, entire, small. The common *petiole* rarely an inch long, entire, glabrous. *Flowers* in terminal cylindrical heads. *Bracteas* subulate, when young much longer than the calyx, giving the spike a square appearance, but not longer than the calyx when in flower. *Calyx* ovate, striate, glabrous, 5-toothed, deeply cloven on the upper side, the teeth when young pubescent on the inner surface. *Petals* obovate, on long claws, the upper one larger than the rest and slightly emarginate, all brilliantly white. *Stamens* and *Style* nearly as long as the corolla.

This plant which grows in great abundance on the sand hills between the Flint and Chatahouchie rivers, notwithstanding the colour of its corolla agrees in too many respects with the P. Carneum of Michaux to be separated from it without a careful examination of his original plant. Specimens which I have received from Florida under this name differ much in their general aspect from the one I have described.—There are probably still some unknown species in the extensive pine forests along the southern line of Georgia and in East-Florida.

Flowers July—August.

2. CORYMBOSUM.

P. pedunculis paniculato-corymbosis; calycibus plumosis; foliolis linearibus, muticis.	Peduncles in panicled corymbs; calyx plumose; leaflets linear, unawned.

Mich. 3. p. 50. Pursh 2. p. 461. Nutt. 2. p. 85.
Anon. Kuhniæ Affinis. Walt. p. 103.
Dalea Kuhnistera. Sp. pl. 3. p. 1337.

Root perennial. *Stem* erect, branching, glabrous, about 2 feet high. *Leaves* generally 3—4 pair. *Leaflets* linear, entire, glabrous, dotted underneath. The common *petioles* scarcely an inch long. *Stipules* 2, small, subulate, at the base of the petioles. *Flowers* in heads forming terminal corymbs. *Peduncles* or small branches angled, roughened with small glands. *Bractea*, a scale around the base of each flower, nearly round, membranaceous, dotted, fringed, mucronate, sometimes with three approximate points, the 8 or 10 inferior bracteas generally without flowers, the lowest with their joints frequently dilated into leaves. *Calyx* deeply 5-parted, the segments linear, plumose. *Petals* white, upper one with a claw as long as the calyx and attached to its base, the 4 others alternating with their stamens. *Germs* ovate, very villous. *Style* as long as the stamens. *Stigma* simple, obtuse. *Legumen* small, included in the calyx. *Seed* 1, oblong.

Grows in dry sandy pine barrens.
Flowers September—October.

HEXANDRIA.

DICLYTRA. Mocnck.

Petala 4, 2 exteriora basi æqualiter calcarata aut gibbosa. *Siliqua* bivalvis, polysperma.	*Petals* 4, the 2 exterior either gibbous or bearing a spur at base. *Pod* 2-valved, many seeded.

1. Formosa.

D. calcaribus 2, subincurvis, obtusis; scapo nudo, racemo subcomposito; stigmate biangulato.	Spurs 2, slightly curved, obtuse; scape naked; raceme somewhat compound; stigma 2-angled.

De Candolle Sys. Nat. 2. p. 109.
Corydalis Formosa. Pursh 2. p. 462. Nutt. 2. p. 86.

Root tuberous, perennial. *Leaves* all radical, on petioles 4—6 inches long, deeply and triternately notched, with the segments acute. *Scape* 6—10 inches long, branching towards the summit. *Flowers* somewhat crowded on the scape. *Bracteas* subulate· *Calyx* 2-leaved, slightly toothed along the margin. *Corolla* somewhat goblet shaped, of a bright purple colour, the 2 exterior *petals* concave, with a short slightly incurved spur at base. *Stamens* 6, attached to the base of the petals. *Germ* oblong. *Stigma* sessile. *Pod* 2-valved, compressed, many seeded.

Grows in the fissures of the rocks on the mountains.

Flowers May—July.

CORYDALIS. Ventenat.

Petala 4, unicum basi calcaratum. *Siliqua* bivalvis, compressa, polysperma.

Petals 4, one bearing a spur at base. *Pod* 2-valved, compressed, many seeded.

1. Aurea.

C. caule ramosa, diffusa; foliis glaucis, bipinnatisectis, lobis oblongo linearibus; bracteis oblongis, acuminatis; siliquis linearibus, pedicello quadruplo longioribus. De Candolle.

Stem branching, diffuse; leaves glaucous, doubly pinnatifid, the lobes oblong, linear; bracteas oblong, acuminate; pods linear, four times as long as the pedicel.

Willd. enum. 740. Pursh 2. p. 463. Nutt. 2. p. 86. De Cand. Sys. Nat. 2. p. 125.

A plant slightly glaucous. *Stem* 6—10 inches high, branching. *Leaves* alternate, variously dissected, segments linear, acute. *Racemes* opposite the leaves and terminal. *Bracteas* linear, acuminate, nearly as long as the pedicel. *Calyx* 2-leaved, very small. *Petals* yellow, about half an inch long. *Spur* straight, obtuse, much shorter than the flower. *Pod* compressed, slightly arched, pointed with the style.

I have specimens of this plant from Pennsylvania and from the mountains of Carolina, in the latter the flowers appear to be smaller, and the leaves though dissected after the manner of the genus are much less extended and divided.

Grows among the mountains in the fissures of rocks.

Flowers May—July.

FUMARIA.

Petalum unicum basi gibbum aut calcaratum. *Fructus* (cariopsis) indehiscens, 1-sperma.

One *petal* gibbous or spurred at base. *Fruit* (a cariopsis) 1-seeded, not opening.

1. Officinalis.

F. siliculis globoso-retusis; pedicellis fructiferis erectis, bractea duplo longioribus; racemis laxiusculis; caule erecto; foliis supra decompositis, lobis linearibus. De Cand.

Pods globose, retuse; pedicels of the fruit erect, twice as long as the bractea; racemes loose; stem erect; leaves supra decompound, lobes linear.

Pursh 2. p. 463. De Cand. Syst. Nat. 2. p. 134.

Root annual, fusiform. *Stem* 6—10 inches high, branching, and with the whole plant glabrous and slightly glaucous. *Leaves* variously dissected, in general compoundly 3-parted, segments many cleft. *Flowers* in racemes. *Peduncles* opposite the leaves, robust, and in general much longer than the leaves. *Calyx* 2-leaved, very small. *Petals* 4, the lower one linear, free, the 3 upper united at base, bearing a spur, all purple, deeply coloured at the summit. *Stamens* diadelphous, shorter than the corolla. *Stigma* bilamellate. *Capsule* globose, smooth, 1-seeded.

An exotic now becoming naturalized in this country. Very common on James' Island and at Mr. Middleton's, Ashley river.

Grows in dry sandy soils.

Flowers in April.

OCTANDRIA.

POLYGALA, Gen. Pl, 1154.

Calyx 5-phyllus, foliolis duobus alæfor-

Calyx 5-leaved, 2 of them wing shaped,

mibus, coloratis. *Capsula* obcordata, bilocularis, bivalvis.	coloured. *Capsule* obcordate, 2-celled, 2 valved.
* *Floribus axillaribus.*	* *Flowers axillary.*

1. Paucifolia.

P. pumila; caulibus simplicissimis, erectis, inferne nudis; foliis ovatis, acutis, glabris; floribus terminalibus axillaribusque.	Plant small; stem simple, erect, naked at base; leaves ovate, acute, glabrous; flowers terminal and axillary.

Sp. pl. 3. p. 880. Pursh 2. p. 464.

Plant 2—3 inches high. *Root* perennial. *Stem* glabrous, with small ovate scales near the base. *Leaves* near the summit clustered, ovate, acute, on short petioles. *Flowers* generally appear terminal and by threes, sometimes axillary, and larger than in any other of our species. *Peduncles* about half an inch long. The two lower leaves of the calyx small, lanceolate, the upper larger, ovate, a little gibbous at base and compressed, calycine wings as long as the corolla, bright purple. *Corolla* purple, summit of the carina crested.

Grows in the mountains of Carolina.
Flowers May—August. Pursh.

** *Floribus racemosis, spicatisve.*	** *Flowers in racemes or spikes.*

2. Pubescens. Muhl. Cat.

P. pubescens; caule erecto, ramoso; foliis oblongo lanceolatis, acutis, subsessilibus; racemis laxis, terminalibus; floribus pedun-	Pubescent; stem erect, branching; leaves oblong lanceolate, acute, nearly sessile; racemes loose, terminal; flowers on pe-

culatis, demum pendulis.	duncles, finally pendulous.

Nutt. 2. p. 87.
P. Senega. var. rosea. Mich. 2. p. 53.
— ——— var. b. Pursh 2. p. 465.

Root perennial. *Stem* herbaceous, 8—12 inches high, with virgate branches. *Leaves* alternate,on short petioles,strongly veined,soft and pubescent. *Peduncles* 2—4 lines long. *Bracteas* minute,deciduous. Upper leaves of the calyx very small with glandular fringe, calycine wings large,veined, persistent, at first tinged with pink, when old entirely green. *Corolla* rose coloured. *Vexillum* 0? *Carina* three lobed, hairy at base, the intermediate lobe compressed, enclosing the germ, yellow and slightly tuberculated at the summit. *Stamens* 8, monadelphous, very short. *Anthers* 1-celled. *Style* long, bearded at the summit. *Stigma* obtuse. *Pericarp* oblong, slightly winged, pendulous. *Seeds* solitary, one in each cell, hispid.

This is probably the P. Viridescens of Walter. The erect capsules ascribed by Walter to that species is the only point in which they appear to differ.

Grows in dry soils, very common.
Flowers from May to August.

3. POLYGAMA.

P. caule a basi ramoso; foliis angustis, cuneato-lanceolatis; racemis terminalibus corollatis, radicalibus apetalis humistratis.	**Stem branching from the base; leaves narrow, cuneate, lanceolate; terminal racemes bearing a corolla, those of the root without petals and prostrate.**

Walt. p. 179. Pursh 2. p. 465. Nutt. 2. p. 75.

Root fibrous, perennial. *Stem* about a foot high, branching at the very base, glabrous, angled, almost winged by the decurrent leaf. *Leaves* sessile, glabrous, with the margins rough, the lower ones almost obovate. The *Flowers* on peduncles 2 lines long. *Bractea* as long as the peduncle, deciduous. *Stipules* 2, setaceous, persistent, the calycine wings at first bright purple, after flowering becoming green. Keel of the corolla 3-lobed, intermediate lobe fimbriated at the summit. *Stamens* very short, 7—8. *Style* short. *Stigma* 2-lobed, with a globular plumose gland, attached to the upper lip. *Pericarp* pendulous when mature. *Seed* hairy.

The remarkable racemes of this plant, which run just under the surface of the earth, have neither corolla nor calycine wings, yet appear to ripen their seeds; the florets near the end of these racemes are always abortive.

If this plant is the P. Rubella of Willd. with which it appears very accurately to agree, it is very widely extended over the United States,as Mr. Nuttall found that species very abundant in the pine forests around Lake Michigan.

Grows in light oak lands.

Flowers from May to July.

4. SENEGA.

P. caule erecto,simplici ; foliis lanceolatis,acuminatisque; spica terminali, filiformi.	**Stem erect, simple; leaves lanceolate, acute and acuminate ; spikes terminal, filiform.**

Sp. pl. 3. p. 894. Walt. p. 178. Mich. 2. p. 53. Pursh 2. p. 464.

Root fibrous, perennial. *Stem* 8—14 inches high, slightly pubescent. *Leaves* nearly sessile, lanceolate and oval, sometimes very wide, when fully grown, generally acuminate. *Flowers* somewhat clustered in a terminal spike, sessile, white. *Seed* hispid.

Grows in the mountainous districts of Carolina.

Flowers June—August.

5. VERTICILLATA.

P. caule erecto, ramoso ; foliis verticillatis, linearibus ; spicis setaceis, pedunculatis ; floribus distincte alternis,approximatis.	**Stem erect, branching ; leaves verticillate, linear; spikes setaceous, pedunculate ; flowers approximate, distinctly alternate.**

Sp. pl. 3. p. 897. Mich. 2. p. 53. Pursh 2. p. 466.

Stem 8—12 inches high, slightly angled. *Leaves* opposite, verticillate, sometimes solitary, linear, acute, glabrous, finely serrulate. *Bracteas* purplish, shorter than the calyx, deciduous. *Calycine wings* white, tinged with purple. *Corolla* nearly white, fimbriate,with two segments, prominent. *Stamens* 6, very short. *Capsule* sessile, erect. *Seeds* slightly hispid.

Grows in soils somewhat sandy.
Flowers June—July.

6. Setacea.

P. caule setaceo, subaphyllo, simplici, summitate subramoso; foliis parvis, setaceis, sparsis; floribus minutis, dense spicatis.	Stem setaceous, nearly leafless, simple, sparingly branched near the summit; leaves small, setaceous, scattered; flowers minute, in a compact spike.

Mich. 2. p. 52. Pursh 2. p. 485.

Stem erect, angled, divided at the summit into a few long, simple, setaceous branches, almost aphyllous, bearing a few short scattered bristles. *Flowers* minute, incarnate, not crested. Mich.

Grows in Carolina. Mich.
Flowers July—August.

7. Cruciata.

P. caule erecto, ramoso, alato-anguloso; foliis quaternis, linearibus, punctatis; floribus confertis, sessilibus, rachi squarrosa.	Stem erect, branching, angled and winged; leaves by fours, linear, dotted; flowers crowded, sessile, on a squarrose rachis.

Sp. pl. 3. p. 897.
Walt. p. 179.
Mich. 2. p. 52. Pursh 2. p. 466.

Stem 8—12 inches high, angled, with the angles slightly winged. *Leaves* generally by fours, sometimes an inch and a half long, tapering at base. *Spike* terminal, 1—2 inches long. *Bracteas* persistent. *Calycine wings* cordate, ovate, acuminate, mucronate, purple, tinged with green. *Corolla* slightly fimbriate. *Capsules* small.

Grows in the upper districts of Carolina and Georgia.
Flowers June—July.

8. SANGUINEA.

P. caule fastigiatim ramoso; foliis linearibus; spicis confertis; floribus imberbibus; rachi squarrosa. Nut.	Stem bearing fastigiate branches; leaves linear; spikes crowded; flowers not fimbriated; rachis squarrose.

Sp. pl. 3. p. 896. Pluk. Mant. t. 438. f. 5. Nutt. 2. p. 88. Mich. 2. p. 52.

Stem 12—18 inches high, slightly striate, branching near the summit. *Leaves* linear, lanceolate, sessile, alternate. *Spikes*, with us, generally about an inch long. *Bracteas* persistent. *Calycine wings* obovate, longer than the capsule, of a bright pink tinged with green. *Seeds* hairy.

This plant agrees perfectly with the figure of Plukenet, and is therefore in all probability, as suggested by Mr. Nuttall, the original P. Sanguinea of Linnæus.

Grows in flat pine barrens, abundantly near Purysburgh.

Flowers May—July.

9. PURPUREA. Nutt.

P. caule subfastigiatim ramoso; foliis alternis, lineari-lanceolatis; floribus subimbricatis; spicis cylindricis, obtusis; rachi squarrosa. Nutt. 2. p. 88.	Stem bearing fastigiate branches; leaves alternate, linear lanceolate; flowers somewhat imbricate; spikes cylindrical, obtuse; rachis squarrose.

P. Sanguinea. Pursh 2. p. 465.

Plant much more robust than in the preceding species, and in my specimens more irregularly branched, the *Leaves* much larger, the *Spikes* more compact, the *Calycine wings* broader and more obtuse, green, tinged with purple, longer than the capsules.

Grows throughout the United States. Nutt.

I have never met with this species in the low country of Carolina, my specimens are from Pennsylvania.

Flowers June—August.

10. INCARNATA.

P. caule simpliusculo, erecto, glauco; foliis sparsis, subulatis; spicis ovali oblongis; corollis tubo gracili, elongato.

Stem nearly simple, erect, glaucous; leaves scattered, subulate; spikes oval, oblong; tube of the corolla long, slender.

Sp. pl. 3. p. 871. Walt. p. 178. Mich. p. 52. Pursh 2. p. 464.

Stem erect, simple, 1—2 feet high, slightly angled. *Leaves* alternate, subulate, dotted, very glabrous. *Flowers* in a long and somewhat loose, terminal spike. *Bracteas* subulate, caducous. *Calycine wings* oval, green, with the margins tinged with pink. The keel of the corolla twice as long as the calycine wings, bright purple. The lateral lobes crenate, the intermediate lobe conspicuously fimbriate. *Seeds* hairy.

Grows in dry soils, preferring oak lands.

Flowers May—August.

**** Floribus capitatis.*

**** Flowers capitate.*

11. LUTEA.

P. caule simplici ramosoque; foliis inferioribus spathulatis, superioribus lanceolatis; floribus globoso capitatis, luteis; alis calycinis lanceolatis, acuminatis. E.

Stem simple or branching; lower leaves spathulate, the upper lanceolate; flowers in globular heads, yellow; calycine wings lanceolate, acuminate.

Sp. pl. 3. p. 894. Walt. p. 178. Mich. 2. p. 54. Pursh 2. p. 465. Nutt. 2. p. 88.

Stem 8—16 inches high, generally simple, but sometimes bearing a few branches. Radical *leaves* obovate and obtuse. Stem leaves lanceolate, entire. *Flowers* in compact, globose heads. *Bracteas* persistent. *Calycine wings* lanceolate, acuminate, bright yellow. Keel of the corolla yellow, with the intermediate segment fimbriate. *Seed* a little hairy.

Grows every where in damp soils.

Flowers through the whole summer.

12. VIRIDESCENS.

P. caule simplici; foliis cuneato-obovatis, obtusis; capitulis cylindraceis, squarrosis; floribus viridescentibus; alis calycinis longe acuminatis. E.

Stem simple; leaves cuneate, obovate, obtuse; heads cylindrical, squarrose; flowers greenish; calycine wings conspicuously acuminated.

Sp. pl. 3. p. 895. Nutt. 2. p. 88.
P. lutea var. nana. Mich. 2. p. 54.

Stem simple, 1—4 inches long. *Leaves* cuneate or spathulate, with the attenuated base sometimes 2 inches long. *Flowers* in a long cylindrical head. *Calycine wings* twice as long as the corolla, lanceolate, and with a setaceous point, giving the head a squarrose appearance, green, just tinged with yellow. Keel of the corolla yellowish at the summit, fimbriate. *Stamens*, as in most of the capitate species, 6. *Seeds* a little hairy.

Grows in damp pine barrens.

Flowers through the summer.

***** Floribus corymbosis.*

***** Flowers in corymbs.*

13. RAMOSA.

P. caule erecto, fere ab imo ramoso; foliis inferioribus spathulato-obovatis, caulinis linearibus, æqualibus; floribus capitato-corymbosis.

Stem erect, branching from the base; lower leaves spathulate obovate, stem leaves linear, equal; flowers somewhat capitate, the heads forming corymbs.

P. Corymbosa. Nutt. 2. p. 89.

Stem 8—12 inches high, angled, branching sometimes almost from the base. Lower leaves obovate, spathulate; stem leaves linear, lanceolate, nearly of the same size to the summit of the stem. *Flowers* in small loose heads, forming a very irregular corymb. *Calycine wings* much longer than the capsule, oval, lanceolate, mucronate, but never forming compact, squarrose heads as in the following species. Calycine wings and the keel of the corolla greenish yellow. *Seeds* under a microscope slightly hispid.

Grows in ponds in the flat pine barrens intermingled with the P. Corymbosa.

Flowers June—August.

14. Balduini. Nutt.

P. caule erecto, superne ramoso; foliis inferioribus spathulatis, obtusis; caulinis lanceolatis; floribus capitato-corymbosis, capitulis squarrosis, alis calycinis setaceo-acuminatis.	Stem erect, branching near the summit; lower leaves spathulate, obtuse; stem leaves lanceolate; flowers capitate, heads squarrose, corymbose; calycine wings with a setaceous acumination.

Nutt. 2. p. 90.

Stem 2—3 feet high, slightly angled. (Radical *leaves* spathulate, obtuse; Nuttal:) stem leaves small, diminishing towards the summit, lanceolate. *Flowers* in small heads, forming an irregular corymb, very squarrose from the setaceous acumination of the calycine wings. *Calycine wings* and *Corolla* yellowish white. *Carina* scarcely if at all fimbriated. *Seeds* minutely hispid.

This plant was sent to me by the late Dr. Baldwin, as the P. Acuminata, a name which the structure of the calycine wings renders very appropriate.

Grows in the southern districts of Georgia near St. Mary's.

Flowers June—August.

15. Corymbosa.

P. caule erecto, tereti, sub nudo; foliis inferioribus longis, lineari-lanceolatis, caulinis subulatis, superne minutis; floribus racemoso-corymbosis;	Stem erect, terete, nearly naked; lower leaves long, linear-lanceolate, stem leaves subulate, minute near the summit; flowers in corymbose ra-

rachi squarrosa.

cemes; rachis squarrose.

Mich. 2. p. 54. Pursh 2. p. 739.
P. Cymosa. Walt. p. 179.
P. Attenuata. Nutt. 2. p. 90.

Stem erect, terete, tapering, 3—5 feet high. Root *leaves* 2—5 inches long, very narrow, linear, lanceolate; lower stem leaves nearly similar to the root leaves, scattered,diminishing towards the summit to a mere scale, giving the stem a naked appearance. *Flowers* in a regular corymb, composed of simple racemes 1—2 inches long; rachis as the flowers decay, rendered squarrose by the persistent bracteas. *Calycine wings* oval, slightly mucronate, much longer than the capsule, greenish yellow. *Seeds* smooth.

The flowers of this species when dry,become a dark green,almost black, the two preceding species generally retain a yellowish hue.

Grows in the shallow ponds in the pine barrens, very common.

Flowers June—August.

DECANDRIA.

§ 1. STAMENS ALL CONNECTED, MONADELPHOUS.

AMORPHA. GEN. PL. 1170.

Calyx campanulatus, 5-fidus. *Corollæ* vexillum ovatum, con cavum. *Alæ carinaque* nullæ. *Legumen* 1—2 spermum, falcatum.

Calyx campanulate, 5-cleft. *Corolla* with the vexillum ovate,concave. *Wings* and *keel* wanting. *Pod* (Legumen) 1—2 seeded, falcate.

1. FRUTICOSA.

A. glabra, subarborescens; foliis petio-

Glabrous,somewhat arborescent; leaves

latis; spicis aggregatis, elongatis; calycibus nudiusculis, pedicellatis, dentibus 4 obtusis, unico acuminato; leguminibus oligospermis.	on petioles; spikes long, clustered; calyx naked, pedicellate, with 4 teeth obtuse and one acuminate; pods few seeded.

Sp. pl. 3. p. 970. Walt. p. 179. Mich. 2. p. 64. Pursh 2. p. 466.

A shrub 10—16 feet high, with its young expanding branches very pubescent. *Leaves* alternate, unequally pinnate, deciduous. *Leaflets* oval, obtuse, sometimes slightly emarginated with a short point, pubescent. *Flowers* clustered, in terminal racemes. *Racemes* 4—6 inches long, generally by threes. *Calyx* persistent, slightly pubescent, turbinate, border short and 5-cleft, the lower segment acuminate, longer than the rest, the two lateral acute, the upper ones broad and obtuse. Vexillum of the corolla obovate, obtuse, twice as long as the calyx, dark purple. *Filaments* 10, unequal, longer than the corolla, purple, monadelphous. *Anthers* yellow.

Grows along the margins of rivers, very common in what are called in this country, tide lands.

Flowers in April.

2. PUBESCENS.

A. humilis, frutescens; foliis brevissime petiolatis, utrinque obtusis, pubescentibus; spicis paniculatis, elongatis, pubescentibus; calycibus subsessilibus, dentibus omnibus acuminatis.	Small, shrubby; leaves on very short petioles, obtuse at each end, pubescent; spikes long, panicled, pubescent; calyx nearly sessile, with the teeth all acuminate.

Sp. pl. 3. p. 970. Pursh 2. p. 467.
A. Herbacea. Walt. 179. Nutt. 2. p. 91.
A. Pumila. Mich. 2. p. 64.

A small plant rather shrubby than herbaceous, 2—4 feet high. *Stem* pubescent and slightly muricate. *Leaves* equally pinnate, (about 24 pair.) *Leaflets* obtuse, mucronate, with pellucid dots, very pubescent and somewhat hoary. *Calyx* purple, the segments nearly equal. Vexillum of the corolla obcordate, white, longer than the calyx. *Filaments* 10, white, monadelphous.

Grows in damp soils.
Flowers June—July.

ERYTHRINA. GEN. PL. 1163.

Calyx 2-lobatus. *Corollæ* vexillum longissimum, lanceolatum. *Legumen* torulosum.	*Calyx* 2-lobed. Vexillum of the *Corolla* very long, lanceolate. *Pod* torulose.

1. HERBACEA.

E. pumila; foliis ternatis, rhombeis, glabris; spicis longissimis; caule herbaceo, aculeato.	Small; leaves ternate, rhomboidal, glabrous; spikes very long; stem herbaceous, prickly.

Sp. pl. 3. p. 912. Walt. p. 180. Mich. 2. p. 61. Pursh. 2. p. 467. Nutt. 2. p. 92.

Root tuberous, very thick, *Stem* herbaceous, 2—4 feet high, glabrous, streaked with purple, armed with a hooked prickle at the base of each petiole. *Leaves* alternate, compoundly trifoliate, leaflets dilated towards the base and almost hastate, glabrous, a little glaucous underneath, and hairy on the veins. *Flowers* in terminal spikes, the buds alternate and 3-flowered. *Calyx* cylindrical, truncated, slightly emarginate above, underneath furnished with a small tooth. Vexillum of the corolla nearly 2 inches long, emarginate, with the sides compressed bright scarlet, wings and two leafed keel, scarcely as long as the calyx, paler than the vexillum. *Stamens* diadelphous, unequal, as long as the vexillum. *Seeds* many in each pod, bright scarlet.

Grows in rich light soils.
Flowers in May.

LUPINUS. GEN. PL. 1176.

Calyx 2-labiatus. *Antheræ* 5 oblongæ, 5 subrotundæ. *Legumen* coriaceum.	*Calyx* bilabiate. *Anthers* 5 oblong, 5 nearly round. *Pod* coriaceous.

1. Perennis.

L. perennis, repens; caule foliisque glabriusculis; foliis digitatis; foliolis (8—9) lanceolatis, obtusiusculis; calycibus alternis, inappendiculatis? labio superiore emarginato, inferiore integro.

Perennial, creeping; stem and leaves nearly glabrous; leaves digitate; leaflets 8—9 lanceolate, obtuse; calyx alternate, without lateral segments? the upper lip emarginate, the lower entire.

Sp. pl. 3. p. 1022. Walt. 180. Mich. 2. p. 55. Pursh 2. p. 467.

Root perennial, stoloniferous. *Stem* herbaceous, procumbent, slightly pubescent, branching. *Leaves* 7—9, parted to the base, segments lanceolate or obovate, glabrous above, hairy underneath. *Petioles* 2—6 inches long. *Stipules* 2, at the base of each petiole, subulate, persistent. *Racemes* simple, clustered, (4—6) near the termination of the branches. *Bracteas* as long as the bud. *Calyx* 2 lipped, pubescent, the upper lip 2 cleft, with acute segments, the lower longer, keeled, 3 cleft, the lateral segments setaceous, very small. *Corolla* of a beautiful violet colour. *Petals* nearly equal, vexillum reflected, spotted in the centre, carina fringed along the margins. *Stamens* 10, monadelphous. *Filaments* unequal.

This species appears to me to have two very small setaceous segments at the base of the calyx.

Grows in light poor sandy soils.

Flowers April.

2. Villosus.

L. villosus, sericeus; foliis simplicibus, oblongo-lanceolatis; petiolis stipulisque filiformibus, densissime lanuginosis; calyce appendiculato. Nutt.

Villous, silken; leaves simple, oblong, lanceolate; petioles and stipules filiform, densely lanuginous; calyx with lateral segments.

Sp. pl. 3. p. 1029. Pursh 2. p. 468. Nutt. 2. p. 93.
L. Pilosus. Walt. p. 180. Mich. 2. p. 56.

Biennial? *Stem* decumbent, thickly clothed with long, soft, silken hair. *Stipules* 10—15 lines long. *Petioles* 2—3 inches. *Leaves* 3—5 inches long, acute, beautifully villous when young. *Calyx* with lateral segments. *Spikes* long. *Flowers* rather irregular on the spikes. *Corolla* handsome, of a bright reddish purple, most deeply coloured in the centre of the vexillum. *Legume* very lanuginous, resembling a ball of silky wool. *Seeds* small, variegated.

Grows in the dryest sands.

Flowers in the beginning of April.

3. DIFFUSUS. Nutt.

L. villosus, sericeus; caulibus plurimis, diffusis, decumbentibus; foliis simplicibus, oblongo-obovatis; petiolis stipulisque brevibus, nudisque. Nutt. 2. p. 93.	Villous, silken; stems numerous, diffuse, decumbent; leaves simple, oblong, obovate; petioles and stipules short and naked.

Perennial, spreading diffusely in large patches. The *petioles* rarely exceeding an inch in length, and destitute of long woolly hairs. *Stipules* 2—3 lines long. *Leaves* obtuse, attenuated towards the base, 2—3 inches long.

I have adopted this species from Mr. Nuttall, without having had it in my power to determine how far it differs essentially from the preceding.

Grows very abundantly on the poor sand hills in the middle country.

Flowers April.

CROTALARIA. GEN. PL. 1172.

Corollæ vexillum cordatum, magnum; *carina* acuminata. *Filamenta* connata cum fissura dorsali. *Legumen* pedicellatum, turgidum.	Vexillum of the *corolla* cordate, large; the *keel* acuminate. *Filaments* united, with a dorsal fissure. *Pod* turgid, pedicellate.

1. Sagittalis.

C. hirsuta, erecta, ramosa; foliis simplicibus, oblongo-lanceolatis; stipulis sagittatis, acuminatis, decurrentibus; racemis oppositifoliis, subtrifloris; corollis calyce minoribus.

Hirsute, erect, branching; leaves simple, oblong lanceolate; stipules sagittate, acuminate, decurrent; racemes opposite the leaves, generally 3-flowered; corolla smaller than the calyx.

Willd. Sp. pl. 3. p. 972. Walt. p. 81. Mich. 2. p. 55. Pursh 2 p. 469.
C. Lævigata? Pursh 2. p. 469.

Annual. *Stem* 8—18 inches high, more or less hairy. *Stipules* sometimes very long, decurrent. *Flowers* nearly opposite the leaves. *Corolla* yellow, nearly as long as the calyx. *Legumen* inflated, nearly black when mature. *Seed* very small, attached by pedicells to the valves of the legume.

Grows in almost all soils which are not inundated and appears to vary much in its pubescence.

Flowers April—July.

2. Parviflora.

C. hirsuta, erecta, ramosa; foliis simplicibus, lineari-lanceolatis; stipulis superioribus decurrentibus, brevissime bidentatis; racemis oppositifoliis; corollis calyce minoribus.

Hirsute, erect, branching; leaves simple, linear lanceolate; upper stipules decurrent, with 2 very short teeth; racemes opposite the leaves; corolla smaller than the calyx.

Willd Sp. pl. 3. p. 973. Pursh 2. p. 469.
C. Sagittalis var. linearis. Mich. 2. p. 55.

This species is generally found in damp or shady soils, and is distinguished by its narrow leaves and its narrow, short and somewhat irregular stipules. It appearss to me however, that culture will be necessary to determine whether it is really distinct from the preceding species.

Flowers from April to July.

3. Ovalis. Pursh.

C. hirsuta, diffusa, ramosa; foliis simplicibus, petiolatis, ovalibus; stipulis summis vix decurrentibus, brevissimis; racemis oppositifoliis, elongatis; corollis calycem æquantibus.

Hirsute, diffuse, branching; leaves simple, petiolate, oval; upper stipules scarcely decurrent, very short; racemes opposite the leaves, long; corolla as long as the calyx.

Pursh 2. p. 469. Nutt. 2. p. 94.
C. Sagittalis b. ovalis. Mich. 2. p. 55.
C. Rotundifolia. Walt. p. 81.

Root fusiform, perennial. *Stems* herbaceous, procumbent, branching, scarcely a foot high. *Leaves* nearly sessile, elliptic, mucronate, pubescent. *Racemes* nearly opposite the leaves, simple, 3—6 flowered. *Stipules* short, sagittate, sometimes wanting. *Calyx* 2-lipped, the upper lip 2-cleft, the lower 3-cleft, the segments all acute. *Corolla* as long as the calyx, yellow; vexillum round, reflected; carina ciliate on the margin. *Filaments* 10, connate at base, unequal. *Anthers* on the long filaments round, sterile; on the short oblong, opening along the sides. *Style* longer than the stamens. *Stigma* obtuse, bearded. *Legume* and *Seed* like those of the C. Sagittalis.

Grows in dry sandy soils.

Flowers from April to July.

§ 2. Stamens diadelphous.

* *Legume mostly one seeded.*

DALEA. L.

Calyx semiquinquefidis. *Alæ* et *carina* columnæ staminum

Calyx 5-cleft. *Wings* and *carina* attached to the base of

adnatæ. *Vexillum* breve. *Legumen* monospermum, calyce brevius.	the stamens. *Vexillum* short. *Pod* one seeded, shorter than the calyx.

1. Cliffortiana.

D. spicis oblongis, confertis, pedunculatis, terminalibus, sericeis; bracteis calycis longitudine; foliis subsexjugis, lineari-cuneatis, retusis, apice subdentatis.	Spikes oblong, crowded, pedunculate, terminal, silky; bracteas as long as the calyx; leaflets (about 6 pair,) narrow, cuneate, retuse, toothed near the summit.

Sp. pl. 3. p. 1336. Pnrsh 2. p. 474.

Annual. *Stem* 1 1-2—3 feet high, erect, glabrous. *Leaves* 4, 5, or 6 pair, *leaflets* narrow, cuneate, retuse, slightly toothed near the summit. *Spikes* 1—2 inches long, solitary, terminal. *Bracteas* as long as the calyx, lanceolate, glabrous, fringed along the membranaceous margin. *Calyx* hairy, teeth subulate. *Corolla* blue. Willd.

This plant with which I am unacquainted, I have inserted on the doubtful authority of Pursh. Willdenow describes it as a native of Terra Firma; Nuttall quotes it under his D. Alopecuroides, a native of Louisiana, on the borders of the Mississipi.

PSORALEA. Gen. Pl. 1210.

Calyx 5-dentatus, punctis callosis adspersus. *Stamina* diadelpha. *Legumen* monospermum, subrostratum, evalve, calycem æquans.	*Calyx* 5-toothed, sprinkled with callous dots. *Stamens* diadelphous. *Pod* 1-seeded, slightly beaked, without valves, as long as the calyx.

1. Canescens. Mich.

P. tota canescens; foliis breviter petiola-	Hoary; leaves on short footstalks, trifo-

tis, trifoliatis, lato-lanceolatis; spicis laxifloris; floribus pedicellatis; calycibus pilosis.	liate, broad, lanceolate; spikes loosely flowered; flowers pedicellate; calyx hairy.

Mich. 2. p. 57. Pursh 2. p. 475.

Root tuberous, perennial. *Stem* herbaceous, having somewhat of a shrubby appearance, 2—3 feet high, branching. *Leaves* on very short petioles, entire, thickly sprinkled with glands. *Peduncles* axillary, much longer than the leaves, bearing 4—7 flowers near the extremity. *Calyx* for this genus large, deeply divided, coloured, (brownish,) hairy and very distinctly marked with dark coloured glands. *Corolla* yellowish, longer than the calyx.

Grows in sandy soils in the middle of Carolina and Georgia.

Flowers May—July.

2. LUPINELLUS. Mich.

P. glaber; foliis digitatis, longe petiolatis; foliolis filiformibus; racemis multifloris, foliis longioribus; leguminibus rugosis.	Glabrous; leaves digitate, on long petioles; leaflets filiform; racemes many flowered, longer than the leaves; legumes rugose.

Mich. 2. p. 58. Pursh 2. p. 476. Nutt. 2. p. 103.

Root perennial? *Stem* about 2 feet high, sparingly branched. *Leaves* on petioles rather more than an inch long. *Leaflets* 5—7, not larger than the petiole, exhibiting distinctly the glands which characterize this genus. *Peduncles* much thicker than the petioles, 3—5 inches long. *Calyx* small, glandular, with the lower segment a little longer than the rest. *Corolla* 3 times as long as the calyx, of a pale violet colour.

Grows in the arid barren sandhills at Fort Barrington on the Altamaha, and is found occasionally in similar situations in other parts of Georgia and Carolina.

Flowers May—July.

*** Spicis cylindricis, melilotoidea. (Poikadenia.)*

*** Spikes cylindrical, resembling Melilotus.*

3. VIRGATA. Nutt.

P. caule virgato, subpubescente; foliis simplicibus, distantibus, lineari-lanceolatis; spicis axillaribus, foliis brevioribus.

Stem virgate, somewhat pubescent; leaves simple, distant, linear-lanceolate; spikes axillary, shorter than the leaves.

Nutt. 2. p. 104.

Stem about 2 feet high, sparingly branched. Radical *leaves* oblong, ovate; leaves of the stem on petioles nearly an inch long, very narrow, glabrous, 3—5 inches long, scarcely more than two or three lines wide. *Flowers* in compact cylindrical spikes, the naked base of the common peduncle scarcely longer than the petiole. *Bracteas* ovate, acuminate, deciduous, and like the calyx dotted with glands. *Calyx* 5-cleft. *Corolla* violet coloured, a little larger than the calyx. *Legume* 1-seeded.

Discovered by Dr. Baldwin near St. Mary's, Georgia, and sent to me under the name of P. Angustifolia.

Flowers.

4. MELILOTOIDES. Mich.

P. parce pubescens; foliis ternatis, foliolis oblongo-lanceolatis; spicis oblongis; bracteis lato-cordatis, longissime acuminatis; leguminibus rotundatis, nervoso-rugosissimis.

Sparingly pubescent; leaves ternate, leaflets oblong, lanceolate; spikes oblong; bracteas broad, cordate, conspicuously acuminate; pods round, nervose, very rugose.

Mich. 2. p. 58. Pursh 2. p. 475.
Trifolium psoralioides. Walt. p. 184.

Root perennial? *Stem* herbaceous, diffuse, branching, pubescent, nearly 2 feet high. *Leaves* ternate, pubescent, rounded at base and punctured with glandular dots. *Spikes* axillary and terminal, on peduncles much longer than the leaves. *Bracteas* nearly round, abruptly acuminate, tinged with purple, dotted with glands, covering two flowers, deciduous. *Calyx* hairy, 5-cleft, dotted with glands, purplish, with green spots. *Corolla* purple, the carina very small. *Stamens* diadelphous. *Legume* oval, rugose, mucronate. *Seed* 1, glabrous.

Grows in dry soils moderately rich.

Flowers May—June.

5. EGLANDULOSA. E.

P. pubescens, eglandulosa; foliis ternatis, oblongo lanceolatis; spicis oblongis; bracteis lato-lanceolatis, longe acuminatis calycibusque villosis. E.

Pubescent, without glands; leaves ternate, oblong lanceolate; spikes oblong; bracteas broad, lanceolate, conspicuously acuminate and with the calyx villous.

Melilotus psoraloides. Nutt. 2. p. 104?

This plant is very similar to the preceding species, with which I suspect it has always been confounded. It is however more pubescent, its bracteas not so remarkably acuminate, and its calyx,particularly along the margins, much more villous. It is probably the plant described by Mr. Nuttall, but its affinity to the preceding species, in habit and in every character except the glands, induces me to retain it in this genus. The plants of this section will however, probably constitute a new genus, as they appear to be very closely allied among themselves, and almost equally connected with this genus and the Melilotus.

Grows in dry, moderately fertile soils.

Flowers May—June.

6. MULTIJUGA. E.

P. caule ramoso; foliis pinnatis, multijugis(9—10); foliolis oblongo lanceolatis, obtusis, pubescentibus; spicis oblongis; bracteis parvulis, membra-

Stem branching; leaves pinnate, leaflets numerous, (9—10 pair) oblong-lanceolate, obtuse, pubescent; spikes oblong; bracteas small, memnaceis, eglandulosis. E.

branaceous, without glands.

Stem apparently 1—2 feet high, thick, furrowed, and nearly glabrous. *Leaves* irregularly pinnate, leaflets small, hairy on the under surface, and under the microscope apparently covered with minute black glands. *Stipules* broad, ovate, membranaceous, without glands, sparingly fringed. *Flowers* on peduncles much longer than the leaves, and like the preceding species, the spikes when young are closely imbricate. *Bracteas* small, not above half the length of the calyx. Segments of the calyx very long, acute and villous along the margins. *Corolla* violet coloured, the carina rarely as long as the vexillum. The *Legume* I have not seen, but from the appearance of the germ it is monospermous.

This plant I have thrown, though with some hesitation, into this section from the strong resemblance which it has in habit and in its mode of flowering, to the three preceeding species. It was collected some years ago, in Abbeville District, by Mr. Gourdine, and sent to me by Dr. Macbride.

Flowers May—June.

MELILOTUS.

Calyx tubulosus, 5-dentatus. *Carina* simplex, alis et vexillo brevior. *Legumen* calyce longius, rugosum. *Flores* racemosi.

Calyx tubular, 5-toothed. *Carina* simple, shorter than the wings and vexillum. *Pod* longer than the calyx, rugose. *Flowers* in racemes.

1. Officinalis.

M. caule erecto; foliolis obovatis, serratis; spicis axillaribus, paniculatis; leguminibus dispermis, rugosis, acutis.

Stem erect; leaflets obovate, serrate; spikes axillary, paniculate; pod 2 seeded, rugose, acute.

Pursh 2. p. 477. Nutt. 2. p. 104.
Trifolium officinale. Sp. pl. 3. p. 1355.

Root annual. *Stem* 2—3 feet high, angular, glabrous. *Leaves* trifoliate; leaflets obovate, serrate, glabrous. *Flowers* in long compact spikes, bright yellow, keel and wings nearly as long as the vexillum.

This plant, a native of Europe, is now completely naturalized in the neighbourhood of Charleston. It grows very luxuriantly, but no species of domestic stock appears willing to eat it.

Grows in close soils.

Flowers April—May.

I have among my specimens one collected in the state of New-York by Mr. Whitlow, with leaves nearly elliptical, flowers very small, whitish or white, and scattered along a very long raceme or spike, which appears to me evidently a distinct species.

TRIFOLIUM. GEN. PL. 1211.

Legumen calyce tectum, evalve, 2—4 spermum. *Flores* subcapitati.

Pod covered with the calyx, without valves, 2—4 seeded. *Flowers* generally in heads.

1. CAROLINIANUM. Mich.

T. pusillum, procumbens; foliolis obcordatis, (supremis tantum emarginatis,) pilosis, dentatis; stipulis bifidis, capitulis umbellaribus, pedunculatis, reflexis, paucifloris; corollis vix exsertis; leguminibus 3—4 spermis.

Small, procumbent; leaflets obcordate, (the upper only emarginate,) hairy, toothed; stipules 2-cleft; heads or umbels pedunculate, reflected, few flowered; corolla scarcely exserted; pods 3—4 seeded.

Mich. 2. p. 58. Pursh 2. p. 477.
T. repens? Walt. p. 183.

Root somewhat fusiform, probably perennial. *Stem* divaricate, prostrate, assurgent at the summit, hairy, 3—10 inches high. *Leaflets* ternate, slightly glaucous underneath, 3—5 lines long, 3—4 wide, on petioles 1—2 inches long. *Stipules* 2 at the base of each petiole, obliquely lanceolate, acuminated, toothed, with the nerve divided at the summit. *Flowers* numerous, (16—20) on small umbels, erect when expanded, afterwards reflected, the common peduncles terminal and axillary, 2—3 inches long. *Calyx* persistent, 5-cleft, the upper segments very short, sometimes reflected. *Corolla* white, tinged with purple, the vexillum alone longer than the calyx, the keel very short. *Legume* a little turgid, hairy, generally 4-seeded.

Grows in dry sandy pastures.

Flowers March—May.

2. Repens.

T. repens, subglabrum; foliolis ovato-oblongis, emarginatis, serrulatis, capitulis subglobosis; calycinis dentibus subæqualibus; leguminibus tetraspermis.	Creeping, nearly glabrous; leaflets ovate oblong, emarginate, serrulate, heads nearly globose; teeth of the calyx generally equal; pods 4-seeded.

Sp. pl. 3. p. 1359. Mich. 2. p. 59. Pursh 2. p. 477.

Root creeping. *Stem* prostrate and creeping, sprinkled occasionally with a few hairs. *Leaves* ternate, sometimes orbicular, generally emarginate, the lower ones occasionally obcordate, acutely serrulate, nearly glabrous, and of a very bright green. *Petioles* 2—8 inches long. *Umbells* many flowered, axillary and terminal, on peduncles 4—10 inches long. *Flowers* when expanded, erect, afterwards reflected. *Calyx* nearly glabrous, the upper segments a little shorter than the lower. *Corolla* white, the vexillum nearly twice as long as the calyx, wings and keel short. *Legume* cylindrical, turgid, 4-seeded.

Grows in close damp soils.

Flowers March—May. *White Clover.*

This species of clover is now very much diffused in the low country of Carolina, and grows very luxuriantly during the spring in soils adapted to it. In summer it disappears. It is however eaten but sparingly, and apparently with reluctance, by stock of any description. It affects very sensibly the salivary glands, sometimes producing complete salivation.

3. Pratense.

T. adscendens, glabriusculum; foliolis ovalibus, subintegerrimis; stipulis aristatis;	Ascending, glabrous; leaflets oval, nearly entire; stipules awned; spikes thick,

spicis densis, ovatis; calycis dente infimo, tubo corollæ monopetalæ, inæqualis, breviore.

ovate; lower tooth of the calyx shorter than the tube of the monopetalous, unequal corolla.

Sp. pl. 3. p. 1366. Pursh 2. p. 478.

Root perennial. *Stem* ascending or erect, 2—3 feet high. *Leaves* ovate, finally serrulate, nearly glabrous. *Flowers* in ovate heads on short peduncles. *Calyx* and *Bracteas* very hairy. *Corolla* bright purple, much longer than the calyx.

This,perhaps the most valuable species of Trifolium, is found occasionally in the low country of Carolina, like the preceding species it grows luxuriantly in the spring but disappears during the steady heat of summer.

Grows in close rich soils.

Flowers April—May. *Red Clover.*

4. Reflexum.

T. decumbens, pubescens; foliolis obovatis; stipulis oblique cordatis; capitulis multifloris; floribus pedunculatis, demum omnibus reflexis; leguminibus sub 4-spermis.

Decumbent, pubescent; leaflets obovate; stipules obliquely cordate; heads many flowered; flowers on pedicels, all finally reflected; pod generally 4-seeded.

Willd. Sp. pl. 3. p. 1357. Walt. p. 183. Mich. 2. p. 59. Pursh 2. p. 477.

Stem herbaceous, decumbent, 12—18 inches high, very pubescent. *Leaves* ternate, somewhat rhomboidal, pubescent, the upper ones acute, the lower emarginate. *Petals* 3—4 inches long. *Flowers* in compact, oblong heads, after expansion reflected; common peduncle scarcely an inch long. *Calyx* hairy, with the segments nearly equal. Vexillum of the corolla twice as long as the calyx, rose coloured: Wings and keel short, nearly white. *Legume* glabrous, compressed, slightly winged, 4-seeded.

This species of Trifolium, which under the name of Buffalo Clover, grows I believe freely in the upper districts of Georgia, is rare in the low country. Its leaves and flowers are larger than those of any other of our species. With our cattle it does not appear to be a favorite food.

Grows in close soils.

Flowers April—May.

5. ARVENSE.

T. erectum, villosum; foliolis lineari lanceolatis, apice serrulatis ; spicis villosissimis, subcylindraceis; dentibus calycinis setaceis, corolla longioribus.

Erect, villous; leaflets linear lanceolate, serrulate at the summit; spikes very villous, somewhat cylindrical ; teeth of the calyx setaceous, longer than the corolla.

Sp. pl. 3. p. 1373. Walt. p. 183 ? Mich. 2. p. 59. Pursh 2. p. 478.

Stem erect, like the whole plant, hairy. *Leaves* ternate, very simple, leaflets almost linear. *Stipules* united at base, summits acute and almost setaceous. *Flowers* in terminal cylindrical spikes. *Calyx* with the tube a little inflated, the segments setaceous, long, and with the tube so villous as to make the spike resemble an oblong mass of hair. *Corolla* shorter than the calyx, flowers white with a red spot on each wing.

Grows, but I believe sparingly, in the upper districts of Carolina.

Flowers.

STYLOSANTHES. GEN. PL. 1203.

Calyx tubulosus, longissimus, corollifer. *Germen* sub corolla. *Lomentum* 1—2 articulatum, hamatum.

Calyx tubular, very long, bearing the corolla. *Germ* under the corolla. *Lomentum* 1—2 jointed, hooked.

1. ELATIOR.

S. caule uno latere pubescente ; foliolis lanceolatis, glabris ; bracteis lanceolatis, ciliatis, pauci-floris.

Stem pubescent on one side ; leaflets lanceolate, glabrous ; bracteas lanceolate, fringed, few flowered.

Sp. pl. 3. p. 1167. Nutt. 2. p. 106.
S. Hispida. Mich. 2. p. 75. Pursh 2. p. 480.
Arachis aprica. Walt. p. 182.

Root perennial. *Leaves* ternate, leaflets lanceolate and acute, entire, the leaves surrounding the capitulum simple and a little hairy. *Flowers* in terminal compact heads, closely compressed, with leaves and hispid bracteas,flowers in each head numerous, though it seldom occurs that more than two mature their seed. *Calyx* superior, somewhat 2-lipped, fringed, the upper lip 2-cleft, the lower 3-parted. *Corolla* attached to the calyx yellow. *Stamens* monadelphous, unequal. *Anthers* 5 round, 5 oblong *Tomentum* 1-celled, coriaceous, hooked at the summit.

Grows in dry sandy soils.

Flowers May—August.

LESPEDEZA. Mich.

Calyx 5-partitus, laciniis subæqualibus. *Corollæ* carina transverse obtusa. *Lomentum* lenticulare, inerme, 1-spermum.	*Calyx* 5-parted, segments nearly equal. Keel of the *Corolla* transversely obtuse. *Pod* lenticular, unarmed, 1-seeded.

1. Sessiliflora.

L. erecta, subramosa; foliolis oblongis; fasciculis florum sessilibus, numerosis; lomentis calyce minuto subnudatis, acutis.	Erect, branching; leaflets oblong; clusters of flowers numerous, sessile; pods acute, scarcely covered by the minute calyx.

Mich. 2. p. 70. Pursh. 2. p. 480.

Stem 2—3 feet high, slender, sparingly branched, slightly pubescent. *Leaves* ternate, elliptic, mucronate, sprinkled with hairs on the upper surface, very hairy underneath, common petiole about an inch long. *Flowers* in small sessile clusters, sometimes in small racemes. *Calyx* hairy. *Corolla* and *Legume* both longer than the calyx, corolla of a pale violet colour, legume conspicuously mucronate and hairy.

Grows in sandy lands.

Flowers September.

2. Stuvei. Nutt.

L. simplex, erecta, villosa; foliis ovali-	Simple, erect, villous; leaves oval;

bus; spicis pedunculatis, paucifloris, foliis longioribus; lomentis nudis, pubescentibus.	spikes on peduncles, few flowered, longer than the leaves; pods naked, pubescent.

Nutt. 2. p. 107.

Stem 2—3 feet high, clothed with a soft pubescence. *Leaves* ternate, hairy on both surfaces, common petiole not half an inch long. *Racemes* axillary, rarely bearing more than 5—6 flowers, common peduncle rather more than an inch long. *Corolla* much longer than the calyx, hairy, pointed with a persistent style.

My specimens, though differing in a few minute particulars from the description of Mr. Nuttall, appear to belong to this species.

Grows in dry sandy lands.

Flowers September.

3. VIOLACEA.

L. erecta, ramosa, pubescens; foliis ellipticis; racemis subumbellatis, foliis vix superantibus; lomentis ovatis, pilosis. E.	Erect, branching, pubescent; leaves elliptic; racemes somewhat umbellate, scarcely longer than the leaves; pods ovate, hairy.

Sp. pl. 3. p. 1195. Walt. p. 185. Pursh 2. p. 481. Nutt. 2. p. 108.

Stem 3—4 feet high, much branched, furrowed. *Leaves* a little hairy on both surfaces, common petiole generally from half an inch to an inch long. *Flowers* on short racemes, and as is usual in this genus, 2 from each bud, but the buds are so near together that the flowers are very much crowded, and as the racemes are just a little longer than the leaves, the upper extremities of the branches frequently resemble a compact cylinder of flowers. *Corolla* larger than the calyx, bright purple. *Pod* hairy.

Grows in dry rich soils.

Flowers September.

The L. Divergens of Dr. Muhlenberg, I have never met with in this state, but the specimens which he sent me appear to differ very much from our common L. Violacea. It is distinguished by much larger leaves on much longer petioles, its stem is much more diffusely branched, the peduncles long with the flowers scattered and distinctly racemose, and the lomentum, or pod, reticulated and nearly glabrous.

4. Frutescens.

L. foliis ternatis, ellipticis, obtusis, sericeis; stipulis subulatis; racemis axillaribus, ovatis, foliis brevioribus; lomentis pilosis, calyce brevioribus.

Leaves ternate, elliptic, obtuse, silken; stipules subulate; racemes axillary, ovate, shorter than the leaves; pods hairy, shorter than the calyx.

Hedysarum frutescens. Sp. pl. 3. p. 1193.
H. Umbellatum ? Walt. p. 184.
L. Capitata. Mich. 2. p. 71. Pursh 2. p. 480.

Root perennial. *Stem* really herbaceous, though like some other species of this genus, suffruticose in appearance, 4—6 feet high, pubescent, villous when young. *Leaves* ternate, covered with a silky pubescence on both surfaces, somewhat glaucous, common petioles 6—8 lines long. *Flowers* in crowded, axillary racemes, shorter than the leaves, common peduncles 6—8 lines long. *Calyx* 5-parted, the segments three times as long as the tube and longer than the corolla. *Corolla* white, the vexillum spotted with red near the base.

Grows in the upper districts of Carolina. Common near Columbia.
Flowers September.

5. Angustifolia.

L. foliis oblongo-ellipticis lanceolatisque, subtus canescenti pubescentibus; racemis capitatis, foliis longioribus; corollis calyce longioribus.

Leaves oblong, elliptic and lanceolate, hoary and pubescent underneath; racemes capitate, longer than the leaves; corolla longer than the calyx.

L. capitata. var. angustifolia. Pursh 2. p. 480

Stem herbaceous, erect, 4—5 feet high, pubescent. *Leaves* long and very narrow, sprinkled with a few hairs on the upper surface, very villous and hoary on the under, common petioles 3—4 lines long. *Racemes* sometimes compound, compactly clustered, common peduncles 1—2 inches long. Segments of the calyx rather longer than the tube, not quite as long as the corolla. *Corolla* white, vexillum purple at base. *Lomentum* in this and the preceding species, inclosed in the calyx.

I have separated this species from the frutescens, as it appears to differ permanently in the size and form of the leaf, and in the comparative length of the racemes and corolla, it differs also with us in its habitat. This is found very abundantly in the low country, where I have never seen the former unless when cultivated in my garden.

Grows in dry sandy soils.

Flowers September.

6. Hirta.

L. erecta, ramosa, villosissima; foliis subsessilibus; foliolis rotundato-ovalibus; spicis axillaribus, longe-pedunculatis; corollis calyce subæqualibus; lomento calycem subæquante.

Erect, branching, very villous; leaves nearly sessile; leaflets oval, nearly round; spikes axillary, on long peduncles; corolla the length of the calyx; pod as long as the calyx.

L. Polystachya. Mich. 2. p. 71. Pursh 2. p. 480.
Hedysarum hirtum. Sp. pl. 3. p. 1193. Walt. p. 185.

Root perennial, *Stem* erect, branching, 3—4 feet high, with the whole plant pubescent, and very hairy when young. *Leaves* ternate, nearly round, and as in all the species of this genus, very entire, slightly mucronate, covered on both sides with a silky pubescence, 3—5 lines long. *Flowers* crowded, in simple racemes, on peduncles longer than the leaves. *Calyx* very hairy, deeply 5-cleft, segments subulate, equal. *Corolla* nearly white. *Petals* all equal, scarcely as long as the calyx, the vexillum spotted in the centre with red. *Lomentum* hairy, 1-seeded.

Grows in dry and moderately fertile soils.

Flowers September.

7. Procumbens.

L. procumbens, gracilis, pubescens; foliis ovalibus; pedunculis longissimis, setaceis,

Procumbent, slender, pubescent; leaves oval; peduncles very long, setaceous; flow-

spicifloris; lomentis orbiculatis, pubescentibus

ers in spikes; pods orbicular, pubescent.

Mich. 2. p. 70. Pursh 2. p. 481. Nutt. 2. p. 118.

Stem prostrate, branching, with the branches assurgent. *Leaves* ternate, leaflets oval, nearly round, emarginate, mucronate, very pubescent and slightly glaucous underneath. *Flowers* few near the summit of long axillary peduncles. *Corolla* purple, longer than the calyx *Lomentum* when mature nearly round, and very pubescent particularly along the margin.

Grows in dry soils.

Flowers August to October.

In the L. Polystachia and Frutescens, the calyx is deeply and equally 5-parted, in this and some other species it appears to be 4-parted, with the upper segment 2-cleft.

8. Prostrata.

L. prostrata, subglabra; foliis ellipticis obovatisque; pedunculis foliis superantibus, spicifloris; lomentis orbiculatis, parce pilosis.

Prostrate, nearly glabrous; leaves elliptic and obovate; peduncles longer than the leaves; flowers in spikes; pods orbicular, a little hairy.

Sp. pl. 3. p. 1200. Pursh 2. p. 481. Nutt. 2. p. 108.

Plant in habit and appearance very similar to the preceding species. *Stem* very slender, woody and glabrous. *Leaves* on very short petioles, a little hairy on the under surface and sometimes distinctly obovate. *Peduncles* scarcely more than an inch long, very slender. *Flowers* very numerous and rather smaller than those of L. Procumbens. *Lomentum* small, slightly sprinkled with hairs.

Grows in dry soils.

Flowers August to October.

** *Legume many seeded, generally articulated.*

HEDYSARUM. Gen. Pl. 1204.

Calyx 5-fidus. *Corollæ* carina trans-

Calyx 5-cleft. Keel of the *Corolla* trans-

verse obtusa. *Lomentum* pluri-articulatum. *Articulis* truncatis, 1-spermis.	versely obtuse. *Pod (Lomentum)* many jointed. *Joints* truncate, 1-seeded.

1. NUDIFLORUM.

H. foliis ternatis, lato-ovalibus, acuminatis, subtus glaucescentibus; scapo paniculato, glabro, caule foliifero altiore; lomenti articulis subrotundo-triangularibus.	Leaves ternate, oval, broad, acuminate, slightly glaucous underneath; scape paniculate, glabrous, taller than the stem; joints of the pod obtusely triangular.

Sp. pl. 3. p. 1198. Walt. 185. Mich. 2. p. 71. Pursh 2. p. 483.

Root perennial. *Stem* generally erect, 6—8 inches high, simple, pubescent, with the leaves crowded near the summit. *Leaves* ternate, leaflets ovate, slightly acuminate, pubescent, a little scabrous, particularly on the upper surface. Common *Petioles* 3—5 inches long. *Flowers* in a panicle 2—3 feet long, the common peduncles shooting from the base of the stem, partial peduncles generally in pairs, about an inch and a half long, pubescent. *Calyx* 4-cleft, the upper segment sometimes bifid, the lower longer than the rest. *Corolla* purple. *Petals* equal. *Vexillum* marked at base with two dark purple spots. Segments of the *staminiferous tube* unequal. *Lomentum* 3—4 jointed, pubescent.

Grows in dry rich shaded soils.

Flowers June—August.

2. ACUMINATUM. Mich.

H. erectum, simplex, pubescens; foliis ternatis, rotundato-ovatis, longe acuminatis, parce pilosis; panicula terminali, longissime pedunculata.	Erect, simple, pubescent; leaves ternate, ovate, nearly round, conspicuously acuminate, a little hairy; panicle terminal, on a very long peduncle.

Mich. 2. p. 72. Pursh 2. p. 483.

Root perennial. *Stem* erect or procumbent, scarcely a foot high, and with the whole plant sprinkled with soft hair. *Leaves* crowded near the summit of the stem, leaflets much dilated in the middle, abruptly acuminated, a little scabrous, common petiole 3—4 inches long. *Flowers* in a terminal panicle 1—2 feet long, partial peduncle 2—4 lines long. *Calyx* 4-toothed, nearly equal in length. *Corolla* pale violet, nearly white. *Petals* equal in length. *Lomentum* 3—4 jointed. *Joints* rounded.

The stamens in this and the preceding species are nearly monadelphous. This species is generally considered as the H. Glutinosum of Dr. Muhlenberg and Willdenow, if, however, Willdenow is correct, in describing the panicle as arising from the base of the stem, which he has twice mentioned, the two species must be distinct. In a specimen of the H. Glutinosum, which was sent me by Dr. Muhlenberg, the leaves and panicle are unfortunately detached from the stem, as far, however, as they can be compared to this species, the resemblance is minutely exact.

Grows in rich shaded soils.

Flowers June—August.

3. Strictum. Pursh.

H. erectum; foliis ternatis, lineari ellipticis, glabris, venosis; racemis axillaribus terminalibusque; lomentis plerumque biarticulatis.

Erect; leaves ternate, linear, elliptic, glabrous, veiny; racemes axillary and terminal; pods generally 2-jointed.

Pursh 2. p. 483. Nutt. 2. p. 109.

Stem erect, 3—4 feet high, covered, as is common in this genus, with an adhesive pubescence, branching towards the summit. *Leaflets* long, exactly linear, but elliptic at their terminations, bearing a few hairs sprinkled along the margin, common petiole 4—5 lines long, pubescent. *Flowers* in long, axillary and terminal panicles, pubescent. *Calyx* 4-cleft, segments a little unequal. *Corolla* small, purple, greenish at base. *Lomentum* generally 2-jointed *Joints* nearly oval, hispid.

Grows in dry pine barrens.

Flowers August—September.

4. Paniculatum.

H. erectum; foliis ternatis, lineari-lanceolatis, utrinque obtusis,

Erect; leaves ternate, linear lanceolate, obtuse at each end, a

subtus parce pilosis; panicula terminali; lomenti articulis triangularibus, hispidis.

little hairy underneath; panicle terminal; pods hispid, with the joints triangular.

Walt. p. 185. Mich. 2. p. 74. Pursh 2. p. 483. Sp. pl. Lin. 3. p. 1056. Gron. Flor. Virg. 108.

Root, as in all of this genus, perennial. *Stem* erect and procumbent, furrowed, a little hairy towards the summit. *Leaves* very narrow, with the margins revolute, nearly glabrous, paler underneath, and a litle hairy, sometimes 3—4 inches long, 3—4 lines wide, common petiole about an inch long. *Calyx* 4-cleft, the inferior segment nearly twice as long as the others. *Corolla* purple. *Lomentum* generally 5-jointed. *Joints* nearly triangular.

Grows in damp soils.

Flowers August—September.

5. GLABELLUM. Mich.

H. erectum, glabriusculum; foliis ternatis, ovatis, obtusis, subtus subglaucis; panicula terminali; lomenti articulis triangulo-rhomboideis.

Erect, nearly glabrous; leaves ternate, ovate, obtuse, slightly glaucous underneath; panicle terminal; joints of the pod triangular approaching to rhomboidal.

Mich. 2. p. 73 Pursh 2. p. 482.
H. Paniculatum. Willd. Sp. pl. 3. p. 1196.

Stem erect and procumbent, about 2 feet high, pubescent near the summit. *Leaves* ovate, very obtuse, pale green with the veins distinctly reticulate, sprinkled with hair on both surfaces, common petiole about half an inch long. *Stipules* dilated at base, acuminate and very acute. *Flowers* in a somewhat leafy panicle. *Calyx* 4-cleft, the upper segment as usual a little broader than the others, the lower a little prolonged. *Corolla* purple. *Lomentum* 3—5 jointed, the *joints* somewhat rhomboidal, hispid.

Grows in shady places.

Flowers August—September.

6. Obtusum.

H. foliis ternatis, ovatis, obtusis, basi subcordatis; stipulis subulatis; panicula terminali; articulis lomenti semiorbiculatis, reticulatis, hispidis.

Leaves ternate, ovate, obtuse, slightly cordate at base; stipules subulate; panicle terminal; joints of the pod semiorbicular, reticulate, hispid.

Sp. pl. 3. p. 1190. Pursh 2. p. 482.

Stem erect, branching, a little hairy towards the summit. *Leaves* small, scarcely an inch long, ovate and obtuse, nearly glabrous but sprinkled with a few hairs, particularly along the veins, the lateral leaves generally subcordate. *Panicle* terminal, erect. *Corolla* purple. *Lomentum* generally 3-jointed. *Joints* hispid, nearly round.

Grows in dry soils.

Flowers September.

7. Ciliare.

H. foliis ternatis, ovatis, subtus pubescentibus, margine ciliatis; panicula terminali; lomenti articulis semiorbiculatis, hispidis.

Leaves ternate, ovate, pubescent underneath, fringed along the margin; panicle terminal; joints of the pod semiorbicular, hispid.

Sp. pl. 3. p. 1196. Pursh 2. p. 482. Nutt. 2. p. 109.

Stem erect, about 2 feet high, streaked, pubescent. *Leaves* ovate, sometimes a little rhomboidal, pubescent underneath, a little scabrous on the upper surface, on a common peduncle rarely half an inch long. *Panicle* terminal, composed of many simple racemes, nearly covered with small flowers. *Corolla* purple. *Calyx* 4-cleft. *Lomentum* 2—3 jointed. *Joints* nearly round, reticulate.

Var. Oblongifolium.

In the dry lands about Beaufort, I have always found this plant accompanied with a variety or perhaps species, resembling it entirely in habit, size, in the clustered panicle of small flowers, but differing in its leaves, which are larger and proportionally more long, more glabrous, slightly glaucous underneath, and growing on petioles an inch long.

Grows in dry sandy lands. Common about Beaufort.

Flowers September and October.

8. ROTUNDIFOLIUM.

H. prostratum, hirsutum; foliis ternatis, orbiculatis; stipulis cordatis, reflexis; racemis axillaribus et paniculato–terminalibus: lomenti articulis subrhomboideis.

Prostrate, hirsute; leaves ternate, orbicular: stipules cordate, reflected; racemes axillary, and paniculate at the summit; joints of the pod nearly rhomboidal.

Mich. 2. p. 72. Pursh 2. p. 484.

Stem 2—3 feet long, geniculate, branching. *Leaves* a little scabrous, and villous on both surfaces, paler underneath, common petiole from 1—1 1-2 inches long. *Stipules* cordate and acuminate, persistent. *Flowers* sparingly scattered on the racemes, common peduncle 6—18 inches long. *Calyx* 4-cleft, the lower segment prolonged. *Corolla* pale purple, nearly white. *Lomentum* 3—4 jointed. *Joints* nearly rhomboidal, reticulate, very pubescent along the margins. Varies sometimes with leaves ovate, slightly heart-shaped at base.

Grows in dry fertile soils.

Flowers August—September.

9. BRACTEOSUM. Mich.

H. glabrum; foliis ternatis, ovatis, acuminatis acutissimisque; stipulis oblique ovatis; panicula terminali; bracteis majusculis, ovatis, longe acuminatis; lomenti articulis subtriangularibus.

Glabrous; leaves ternate, ovate, acuminate and very acute; stipules obliquely ovate; panicle terminal; bracteas large, ovate, with a long acumination; joints of the pod nearly triangular.

Mich. 2. p. 73. Pursh 2. p. 482.
H. Cuspidatum. Sp. pl. 3. p. 1198. Pursh 2. p. 483.
Plukenet t. 308. f. 5.

Stem 3—5 feet high, erect and decumbent, very glabrous below, a little scabrous near the summit. *Leaves* tapering to a very long and acute point, sometimes ciliate, and sprinkled with hairs along the veins, common petiole 2—5 inches long. *Racemes* axillary and terminal, forming a large loose panicle. *Bracteas* before the opening of the flowers imbricate and conspicuous, when in flower, from the elongation of the common peduncle, the flowers appear thinly scattered on the stem. *Calyx* 4-cleft, the upper segment bifid, the lower long. *Corolla* purple, rather larger than is common in this genus. *Lomentum* 3—6 jointed, often pendulous; very scabrous. *Joints* long and triangular.

Grows in rich dry soils.

Flowers August—September.

10. Canadense.

H. foliis ternatis, oblongo lanceolatis; stipulis filiformibus; floribus racemosis; bracteis ovato-lanceolatis, acuminatis, ciliatis; articulis lomenti obtuse triangulis, hispidis.

Leaves ternate, oblong lanceolate; stipules filiform; flowers in racemes; bracteas ovate-lanceolate, acuminate, ciliate; joints of the pod obtusely triangular, hispid.

Sp. pl. 3. p. 1187. Pursh 2. p. 481.

Stem about 2 feet high, erect, very pubescent near the summit, furrowed. *Leaves* long, lanceolate and ovate-lanceolate, pubescent on both surfaces, particularly along the veins. *Flowers* in compact, axillary racemes. *Bracteas* large, closely imbricate and conspicuous before flowering as in H. Bracteosum. *Corolla* purple.

This species is said by Pursh to extend to Carolina. It very probably can be found in our mountainous districts. I have however, never seen it in the low country.

Grows in dry soils.

Flowers July—August. Pursh.

11. Marilandicum.

H. foliis ternatis, oblongis, subtus villosiusculis; stipulis subulatis; racemis paniculatis; lomentis triarticulatis, articulis

Leaves ternate, oblong, slightly villous underneath; stipules subulate; racemes paniculate; pods 3-jointed, joints rhomboidal,

rhombeis reticulatis, pilosiusculis.	reticulate, a little hairy.

Sp. pl. 3. p. 1189. Pursh 2. p. 482.

Stem erect, pubescent towards the summit. *Leaves* ovate, hairy on the under surface, particularly along the veins, the lateral leaflets sessile and slightly cordate, common petiole 1—2 inches long. *Panicle* somewhat loose and slender. *Corolla* purple. *Lomentum* 2—3 jointed, somewhat rhomboidal.

Grows in dry soils.

Flowers July—August.

12. RIGIDUM. E.

H. erectum, ramosissimum; foliis oblongo-ovatis, obtusis, reticulatis, pubescentibus; panicula ramosa; bracteis ovato-lanceolatis, acuminatis.	Erect, much divided; leaves oblong-ovate, obtuse, reticulate, pubescent; panicle branching; bracteas ovate lanceolate, acuminate.

Stem about 3 feet high, almost tomentose towards the summit. *Leaves* nearly 2 inches long, 5—7 lines wide, thick, strongly reticulate and very pubescent on the under surface, common petiole rarely half an inch long. *Panicle* composed of long erect racemes. *Bracteas* small. Lower segment of the calyx much longer than the upper. *Corolla* small, purple. *Flowers* at first crowded, scattered as the stalks extend.

Grows in dry soils.

Flowers August—September.

13. LÆVIGATUM. Nutt.

H. erectum, glaberrimum; foliis ternatis, ovatis, acutis, subcoriaceis, subtus subglaucis; panicula composita, terminali; bracteis parvulis; lomenti articulis trian-	Erect, very glabrous; leaves ternate, ovate, acute, somewhat coriaceous, slightly glaucous underneath; panicle compound, terminal; bracteas small; joints of

gularibus, pubescentibus.	the pod triangular, pubescent.

Nutt. 2. p. 109.

Stem 3—4 feet high, sometimes decumbent, a little pubescent towards the summit. *Leaves* sometimes slightly acuminate, veiny, common petiole 1—3 inches long, partial petioles about 3 lines long. *Flowers* in a large compound panicle, (florets as is common in this genus,) 2 from each bud,on peduncles 5—8 lines long. *Bracteas* ovate,acuminate, ciliate, 2—3 lines long. *Calyx* 4-cleft, the upper segment emarginate,the lower one nearly twice as long as the rest. *Corolla* purple. *Lomentum* 3—5 jointed. *Joints* triangular, pubescent.

This plant has, as remarked by Mr. Nuttall, some resemblance to the H. Bracteosum, it differs however, in its leaves, which are wider, thicker and not so acute, and by its small bracteas. It was sent by me many years ago, as a distinct species, to Dr. Muhlenberg under the name of H. Coriaceum.

Grows in rich dry soils near Beaufort.

Flowers August to October.

14. Rhombifolium. E.

H. pubescens; foliis ternatis, rhomboideis, obtusis, crassiusculis, reticulato-rugosis; panicula composita; bracteis parvulis; lomentis 1—3 articulatis, articulis suborbiculatis, venosis.	Pubescent; leaves ternate, rhomboidal, obtuse, thick, reticulate, rugose; panicle compound; bracteas small; pods 1–3 jointed,joints nearly round, veined.

Stem 2—3 feet high. *Leaves* somewhat thick and rugose, paler underneath, the lateral leaflets frequently obtuse, the terminal always rhomboidal, common petiole 6—10 lines long, the partial about 1 line. *Stipules* subulate, 3—4 lines long. *Buds* 2—3 flowered, proper peduncle 3—5 lines long. *Bracteas* ovate, lanceolate, acuminate, hairy. *Calyx* 4.cleft, the upper segment slightly emarginate, the lower one a little longer than the others. *Corolla* purple. *Lomentum* 1—3 jointed. *Joints* nearly round, very pubescent.

Grows in dry soils about Beaufort.

Flowers September—October.

15. Viridiflorum.

H. erectum; foliis ternatis, ovatis, obtusis, supra scabris, subtus mollissime villosis; panicula terminali, longissima, subnuda; lomenti articulis triangularibus.

Erect; leaves ternate, ovate, obtuse, scabrous on the upper surface, villous and very soft underneath; panicle terminal, very long, naked; joints of the pod triangular.

Clayton Flora Virgin. p. 109. no. 190. Linnæi. Sp. pl. 1055. Walt. p. 185.

Stem 3—4 feet high, pubescent, very scabrous towards the summit. *Leaves* ovate, sometimes acute, very scabrous on the upper surface, clothed with a velvet like tomentum on the under, 2—3 inches long, 1—1 1-2 wide, common petiole 1—2 inches long. *Peduncles* very scabrous and sometimes viscid. *Calyx* 4-cleft, the upper segment bifid, the lower one longer than the rest. *Petals* purple within, greenish without. *Lomentum* 3—4 jointed, *joints* oblong, triangular.

This plant as was remarked to me by Dr. Muhlenberg in his letters, is evidently the original H. Viridiflorum of Clayton and Gronovius, "foliis magnis superne asperrimis, subtus mollibus althea instar" and therefore of Linnæus. Walter, Michaux, Willdenow and Pursh have under this name described another species.

Grows in dry soils. Very common.

Flowers from June to October.

16. Scaberrimum. E.

H. erectum, scaberrimum; foliis ternatis, ovatis, superne attenuatis, acutis, canescenti-pubescentibus; stipulis ovatis, acuminatis, persistentibus; panicula majuscula, terminali; lomenti articulis majusculis, subtriangularibus, hispidissimis.

Erect, very scabrous; leaves ternate, ovate, tapering to the summit, acute, hairy, pubescent; stipules ovate, acuminate, persistent; panicle large, terminal; joints of the pod large, somewhat triangular, very hispid.

Stem 3—4 feet high, branching, and with most parts of this plant more scabrous than any other species we have described. *Leaves* of a pale green, beautifully veined, hairy, and scabrous particularly on the under surface, very obtuse at base, common peduncles 2—3 inches long. *Stipules* dilated at base, large, obliquely ovate, acuminate, hairy and persistent. *Bracteas* ovate, lanceolate, hairy. *Calyx* 4 cleft. *Corolla* 3 times as large as the calyx, purple. *Lomentum* larger than in any other of our own species, 3—6 jointed, *joints* somewhat triangular.

This is one of the species which has been referred to the H. Canescens of Linnæus—The H. Canescens of Willdenow, is the H. Rotundifolium of Michaux, and our later botanists. I have among my specimens one sent me as the H. Canescens, according to Sir James Edward Smith, in which the leaves resemble this very much in shape, size, and colour, but are thinner in their texture, less hairy, less scabrous, not so distinctly articulate, and the flowers apparently forming much more compact racemes, with bracteas nearly thrice as long as in our plant.

Grows in dry soils. Very common.

Flowers June and August.

17. Lineatum. Mich.

H. caule repente, viridi lineato; foliis subsessilibus, trifoliatis, suborbiculatis; racemis elongatis, laxe parvifloris; lomenti articulis lenticularibus.

Stem creeping, streaked with green; leaves nearly sessile, trifoliate, nearly round; racemes long, with small scattered flowers; joints of the pod lenticular.

Mich. 2. p. 72.

If the Stem of this plant had been rigidly erect, it would resemble very much the H. ciliare of this sketch. If no error has crept into the description of Michaux, his plant has not recently been seen by any of our botanists.

Grows in Carolina. Michaux.

ZORNIA.

Calyx campanulatus, 2-labiatus. *Vexillum* cordatum, revolutum. *Antheræ* al-

Calyx campanulate, bilabiate. *Vexillum* cordate, revolute. *Anthers* alterternæ oblongæ, alternæ globosæ. *Lomentum* articulatum, hispidum.

nately oblong and globular. *Pod* jointed, hispid.

1. TETRAPHYLLA.

Z. foliis digitato-quadrifoliatis; foliolis lanceolatis, glabris; spicis axillaribus, pedunculatis; floribus alternis bibracteatis, bracteis suborbiculatis.

Leaves digitate, leaflets 4, lanceolate, glabrous; spikes axillary, on peduncles; flowers alternate, protected by two nearly round bracteas.

Mich. fl. Amer. 2. p. 76. Pursh. 2. p. 484. Anon. bracteat. Walt. p. 181.

Root somewhat cylindrically tuberous, perennial. *Stem* herbaceous, prostrate, branching in every direction, about 2 feet long, glabrous. *Leaves* digitate, generally by fours, leaflets lanceolate, very acute, the lower one sometimes obovate, all entire, glabrous and dotted; common petiole 1—2 inches long, partial petioles scarcely one line long. *Stipules* lanceolate, very acute, deciduous. *Flowers* in long (4—8 inches) simple, axillary spikes, somewhat distichous on the spike. *Bracteas* 2 at the base of each flower, covering the bud and nearly enclosing the expanded flower, lanceolate, ciliate, acuminate, attached to the stem near its summit. *Calyx* 4 cleft, the upper segment broad, emarginate, all fringed. *Corolla* yellow, the vexillum and keel longer than the wings. *Stamens* monadelphous, the stameniferous tube divided to the middle, the segments alternately longer. *Anthers* 5 round, 5 oblong. *Lomentum* 2—4 jointed, *joints* nearly round, rugose and hispid. In its artificial character this plant is very nearly allied to the genus Hedysarum, where it was formerly placed. In habit it is very distinct.

Grows in the driest sandy lands.

Flowers June to August.

ÆSCHYNOMENE. GEN. PL. 1202.

Calyx bilabiatus. *Lomentum* compressum, sutura altera recta, altera lobata, articulis truncatis, 1-sper-

Calyx bilabiate. *Pod* (Lomentum) compressed with one suture straight, the other lobed, the joints trunmis. *Stamina* in phalanges duas æquales divisa.

cate, 1 seeded. *Stamens* divided into two equal phalanxes.

1. Viscidula.

Æ. caule prostrato, gracili, viscido-pubescente; foliolis 7—9, obovatis; pedunculis subbifloris; lomento pubescente, profunda incisura articulato.

Stem prostrate, slender, viscidly pubescent; leaflets 7—9 obovate; peduncles generally 2 flowered; pod pubescent, with the joints deeply notched.

Mich. 2 p. 74. Pursh. 2 p. 485. Nutt. 2 p. 111.

Root perennial. *Stem* about 3 feet long, branching. *Leaves* obovate, very obtuse, oblique, finely reticulate. *Stipules* small, ovate and acuminate. *Racemes* axillary, 2—3 flowered, longer than the leaves. *Calyx* almost equally 5 cleft, with 2 persistent bracteas at the base. *Corolla* yellow. *Lomentum* composed of two very distinct rounded joints, hispid, conspicuously mucronate.

Grows in sandy soils in the southern parts of Georgia.

Flowers.

2. Hispida.

Æ. caule erecto, petiolis-que tuberculato-hispido; foliis multijugis; foliolis linearibus, obtusis; stipulis membranaceis, semisagittatis; racemis simplicibus, paucifloris; lomentis hispidis.

Stem erect and with the petioles hispid and tubercled; leaves in many pair, leaflets linear, obtuse; stipules membranaceous, semisagittate; racemes simple, few flowered; pods hispid.

Willd. Sp. Pl. 3 p. 1163. Pursh. 2 p. 485. Nutt. 2 p. 111.

Annual. *Stem* 2—3 feet high, hispid. *Leaflets* oval, very numerous. *Racemes* simple, few flowered, generally bearing a leaf. *Calyx* 2 lipped, deeply divided, the upper lip bifid, the lower trifid, with the intermediate segment very small. *Corolla* much larger than the Calyx, yellow, tinged with reddish purple. *Lomentum* composed of many (7—10) very indistinct joints, very hispid.

I have had no opportunity of examining this plant in a living state; it is said by Pursh, on the authority of the herbarium of Gronovius to be the original Hedysarum Virginicum of Linnæus. It scarcely can be arranged with that genus, but I think also with M. Nuttall, that it cannot remain in the same genus with the preceding species.

Grows in damp and marshy soils.

Flowers July and August.

SESBANIA Poiret.

Calyx dentibus subæqualibus. *Legumen* elongatum, subcylindricum, 2-valve, dissepimentis tranversis.	Teeth of the calyx nearly equal. Pod long, nearly cylindrical, 2 valved, with a transverse partition.

1. Macrocarpa. Muhl.

S. foliis sine impari pinnatis, multijugis, (10—25;) foliolis ellipticis, glabris, subtus glaucescentibus; racemis axillaribus, paucifloris; leguminibus subteretibus, elongatis.	Leaves equally pinnate; leaflets 10—25 pair, elliptic, glabrous, slightly glaucous underneath; racemes axillary, few flowered; pods nearly terete, long.

Annual. *Stem* 4—12 feet high, glabrous, with expanding branches. *Leaflets* entire, slightly mucronate, 5—12 lines long, 3 wide. *Stipules* subulate, a little hairy, caducous. *Racemes* shorter than the leaves. *Calyx* pubescent along the margin, teeth subulate, the two upper ones reflected. *Corolla* yellowish, dotted with purple on the outer surface, vexillum larger than the other petals, reflected. *Stamens* diadelphous. *Legume* about a foot long, obscurely 4 angled, slender, compactly filled with cylindrical or reniform seeds.

Grows around ponds. Not common. Paris Island.

Flowers August to October.

2. Vesicaria. Jacq.

S? foliis sine impari pinnatis, multijugis, (10—20;) foliolis oblongis,obtusis, glabris; racemis paucifloris,folio brevioribus; lomentis lanceolatis, longe stipitatis subdispermis.	Leaves evenly pinnated; leaflets 10—20 pair, oblong, obtuse, glabrous; racemes few flowered, shorter than the leaves; pod lanceolate, stipitate, generally 2 seeded.

S. Platycarpa Persoon Synopsis 2. p. 316. Nutt. 2. p. 112.
S. Disperma. Pursh 2. p. 485.
Robinia vesicaria. Jacq. ic. rar. 1. t. 48.
Phaca floridana. Pers. Syn. 2. p. 331. Sp. pl. 3. p. 1252.
Æschynomene platycarpa. Mich. 2. p. 75.

Plant about 7 feet high, glabrous. *Leaves* equally pinnate, the common petiole ending in a bristle; leaflets sprinkled with a few hairs near the base. *Racemes* 4—8 flowered. *Calyx* 5 toothed. *Petals* equal, yellow. *Lomentum* conspicuously stipitate, rigidly mucronate, with both sutures thickened, the two tunics of the pod separate in an unusual manner when they are mature, so that the seeds appear to be inclosed in an interior integument. From this circumstance Jacquin's trivial name was derived, which I have retained, not only as prior in time, but perhaps as most appropriate. To the preceding species however, this plant is not allied, and after being so often removed, it has still to find an abiding place.

Grows in damp soils. Not very common, sometimes seen near Charleston.

Flowers August—September.

*** *Legume many seeded. Stigma pubescent.*

LATHYRUS. Gen. Pl. 1186.

Calycis laciniæ superiores 2, breviores. *Stylus* planus, supra villosus, superne latior.	Upper segments of the *calyx* 2, short. *Style* flat, villous on the upper side, wider towards the summit.

1. Pusillus. E.

L. pedunculis unifloris, elongatis; stipulis falcatis, cirrhis diphyllis, simplicibus; foliis lineari-lanceolatis.

Peduncles one flowered, long; stipules falcate; cirrhi 2 leaved, simple; leaves linear lanceolate.

A small slender vine, glabrous. *Stem* angled and winged. *Stipules* nearly half an inch long, very acute. *Leaves* about an inch and a quarter long, nerved, acute at each end, tendrils divided. Segments of the *Calyx* very acute. *Corolla* twice as long as the calyx, purple. *Legume* long, slightly falcate, many seeded (about 14.)

This plant, which appears to have much affinity to the L. Angustifolia of Europe, was found by the late Dr. Trescott on Cooper River in St. John's parish, and is described from his specimens.

Flowers in May.

VICIA. Gen. Pl. 1187.

Calyx superne emarginatus, 2-dentatus, inferne dentibus 3, rectis, longis. *Vexillum* emarginatum. *Stigma* latere inferiore transverse barbatum.

Upper lip of the *calyx* emarginate, slightly 2-toothed, the lower with 3 straight long teeth. *Vexillum* emarginate. *Stigma* transversely bearded on the lower side.

1. Sativa.

V. floribus binis subsessilibus; stipulis dentatis, macula notatis; foliolis oblongo ovatis, retusis, mucronatis; leguminibus erectis, subtereti-linearibus, glabris. Sp. pl. 3. p. 1104.

Flowers in pairs, nearly sessile; stipules toothed, spotted; leaflets oblong-ovate, retuse, mucronate; pods erect, slender, nearly terete, glabrous.

Walt. p. 183. Mich. 2. p. 69. Pursh 2. p. 471.

Stem 4-angled, pubescent, branching, 2—6 feet long. *Leaves* pinnate, terminating with a tendril; leaflets generally 6 pair, elliptic, but retuse and pointed at the summit, pubescent. *Stipules* 2-lobed, the lobes divaricate, notched, pubescent, with a black spot at the base. *Flowers* axillary, sessile, solitary or in pairs. *Calyx* 5-cleft, segments nearly equal, cylindrical. *Seeds* numerous, (about 10,) glabrous.

Grows about Charleston very abundantly.

Flowers March—June.

2. Mitchelli. Rafinesque.

V. pedunculis axillaribus, solitariis, multifloris; stipulis parvulis; foliolis plurimis (10—14,) lineari-lanceolatis, retusis, mucronatis; leguminibus dispermis, pilosis. E.

Peduncles axillary, solitary, many flowered; stipules small; leaflets numerous (10—14,) linear lanceolate, retuse, mucronate; pods 2-seeded, hairy.

Annual? humble. *Stem* very much branched and diffused over the small herbage in its neighbourhood. *Leaves* alternate, terminating in divided tendrils; leaflets numerous, (8—14,) small, linear lanceolate, sometimes cuneate, obtuse and emarginate at the summit, pointed by the projecting midrib. *Flowers* 4—6 near the summit of the peduncles, rather more than an inch long, small, greyish white. *Legumes* small, very hairy, and I believe constantly 2 seeded.

This species, which was first noticed at New-York, by Mr. Rafinesque as distinct from the V. Pusilla, grows very abundantly on some farms in the vicinity of Charleston.

Flowers March—April.

3. Caroliniana. Walt.

V. pedunculis multifloris, folia æquantibus, vel superantibus; stipulis lanceolatis, integerrimis; foliolis 8—10, elliptico-lanceolatis, pubescentibus.

Peduncles many flowered, as long as or longer than the leaves; stipules lanceolate, entire; leaflets 8—10, oblong lanceolate, pubescent.

Sp. pl. 3. p. 1094. Walt. p. 182. Pursh. 2. p. 472.
V. Parviflora? Mich. 2. p. 69.

Perennial, much branched, running over shrubs 8—10 feet high. *Leaves* terminating with a 3-cleft tendril; leaflets 8—10, elliptic or ovate, generally obtuse. *Flowers* very numerous, on long peduncles. *Calyx* hairy, segments short and obtuse. *Corolla* white, the vexillum marked with a black spot. The *Legume* somewhat falcate, mucronate. *Seeds* numerous, small.

Grows in damp rich soils, frequent along the margins of swamps.

Flowers April.

4. ACUTIFOLIA. E.

V. pedunculis paucifloris, folia superantibus; stipulis lanceolatis, integris; foliolis paucis (6) linearibus, utrinque acutis; caule glabro.	**Peduncles few flowered, longer than the leaves; stipules lanceolate, entire; leaflets few (6) linear, acute at each end; stem glabrous.**

Perennial? *Stem* glabrous, somewhat angled, running over small shrubs 2—3 feet high. *Leaves* terminating in a tendril, generally undivided; leaflets 3 pair, sessile, glabrous, 10—15 lines long, very acute. *Flowers* few in my specimens, not exceeding 5 on the long peduncles. Upper lip of the *Calyx* nearly truncate. *Corolla* white. *Legume* glabrous, very slightly falcate, mucronate, many seeded. *Seeds* small.

Grows in Scriven county, Georgia.

Flowers April—May.

PHACA. GEN. PL. 1378.

***Carina* obtusa. *Stylus* imberbis. *Stigma* capitatum. *Legumen* semibiloculare, inflatum.**	***Keel* obtuse. *Style* unbearded. *Stigma* capitate. *Pod* inflated, semibilocular.**

1. VILLOSA.

P. subacaulis, pilosissima; foliolis ovalibus; pedunculis folia subæquantibus; legu-	**Humble, very hairy; leaflets oval; peduncles as long as the leaves; pods hoary,**

minibus incano-villosissimis, assurgentibus, oblongis. Mich.

very villous, assurgent, oblong.

Nutt. 2. p. 97.
Astragalus villosus. Mich. 2. p. 66 Pursh 2. p. 473.

Annual? Plant small, procumbent, altogether villous. *Leaves* unequally pinnate; leaflets numerous, (about 10 besides the terminal one,) elliptic and sometimes nearly round. *Flowers* clustered at the summit of the peduncles, which in my specimens are much longer than the leaves. Teeth of the *calyx* long and acute. *Corolla* yellow. *Legumen* inflated, and with the calyx covered with long hoary pubescence. *Seeds* few, small.

Grows in dry sandy lands. Occurs occasionally near Savannah.

Flowers April—May.

ASTRAGALUS. Gen. Pl. 1208.

Carina obtusa. *Legumen* biloculare aut subbiloculare, sutura inferiore introflexa.

Keel obtuse. *Pod* somewhat 2-celled by the internal extension of the inferior suture.

1. Carolinianus.

A. caulescens, erectus; foliolis (41) oblongis, subtus pubescentibus; spicis pedunculatis; bracteis lanceolatis, pedunculi longitudine; leguminibus ovatis, tumidis, rostratis.

Caulescent, erect; leaflets (41) oblong, pubescent underneath; spikes pedunculate; bracteas lanceolate, as long as the peduncles; pods ovate, tumid, beaked.

Sp. pl. 3. p. 1273. Walt. p. 183. Mich. 2. p. 66. Pursh 2. p. 472.

Root perennial. *Stem* glabrous. *Leaves* unequally pinnate, leaflets very numerous, when young elliptic, when old ovate lanceolate, obtuse, glabrous on the upper surface, very hairy underneath. *Flowers* numerous, in compact axillary spikes, on long peduncles. *Calyx* very hairy, tube truncated, teeth subulate, small. *Corolla* pale yellow, much longer than calyx.

Grows among the mountains of Carolina.

Flowers, June, and July. Pursh.

2 CANADENSIS.

A. caulescens, diffusus; foliolis (21) utrinque glabris; leguminibus subcylindricis, mucronatis.	**Caulescent, diffuse; leaflets (21,) glabrous on both surfaces; pods somewhat cylindric, mucronate.**

Sp. Pl. 3. p. 1274. Walt. p. 183. Pursh 2. p. 472.

Stem prostrate terete. *Root* creeping. *Leaves* glabrous on both sides, somewhat glaucous underneath. *Calyx* smooth, green. *Corolla* yellow. *Legume* cylindrical, depressed, mucronate. Linnæus.

In my specimens the leaves are hairy underneath, and the plant bears a strong resemblance to the preceding species. It seems to differ by the smaller number of its leaflets and flowers.

Grows in the mountains of Carolina.

Flowers July, August, Pursh.

3. GLABER. Mich.

A. caulescens, glaber; foliolis plurimis, parvulis, ovalibus, subciliatis; spicis longe pedunculatis, paucifloris; leguminibus distantibus, teretibus, incurvis.	**Caulescent, glabrous; leaflets numerous, small, oval, slightly fringed; spikes few flowered, on long peduncles; pods distant, terete, incurved.**

Mich. 2. p. 66. Pursh 2. p. 472.

Stem about 2 feet high, glabrous. *Leaves* very numerous, much smaller than in either of the preceding species, obtuse, sometimes emarginate, hairy along the edges, peduncles as long as the leaves, bearing a few flowers (3—6) near the summit. *Calyx* a little hairy, the teeth broad and short. *Corolla* white, much larger than the calyx.

Grows in the high pine barrens in Scriven County, Georgia.

Flowers April.

4. OBCORDATUS. E.

A? glaber; foliolis parvulis, plurimis (15	**Glabrous; leaflets small, numerous (15**

—19) obcordatis; pedunculis elongatis; floribus albidis.

—19) obcordate; peduncles long; flowers white.

Plant small and apparently decumbent. *Leaves* unequally pinnate, leaflets 2—3 lines long, completely obcordate, on very short partial petioles. *Peduncles* robust,bearing at their summit 8—12 flowers. *Bracteas* subulate, scarcely longer than the partial peduncle. *Calyx* a little hairy, segments long, subulate. *Corolla* white.

This remarkable species was sent to me from St. Marys' by the late Dr. Baldwin as the A glaber of Michaux. From the specimen the corolla appears to have been white, the Legume I have not seen.

Grows in the Southern Districts of Georgia near St. Mary's.

Flowers.

**** *Legume many seeded,* 1-*celled, not included in the preceding sections.*

PHASEOLUS. GEN. PL. 1180.

Carina cum staminibus styloque spiraliter torta. *Legumen* compresum, falcatum. *Semina* compressa, reniformia.

Keel with the stamens and style spirally twisted. *Pod* compressed, falcate. *Seeds* compressed, reniform.

1 PERENNIS. Walt.

P. caule volubili; racemis paniculatis, subgeminatis; foliolis ovatis,acuminatis, triplinervibus, pubescentibus; leguminibus pendulis.

Stem voluble; racemes paniculate,generally in pairs; leaflets ovate, acuminate, triplinerved, pubescent; pods pendulous.

Sp. pl. 3. p. 1031. Walt. 182. Pursh 2. 469.
P. paniculatus. Mich. 2. p. 60.

Root perennial. *Stem* pubescent, climbing freely over small shrubs. *Leaves* ternate, the lateral leaves gibbous on one side, common petiole

2—4 inches long. *Stipules* lanceolate, acuminate, small. *Racemes* or rather panicles, 1—3 in each axil but not of the same age, 4—8 inches long. Two small hairy bracteas at the base of each calyx *Calyx* 2 lipped? the upper lip nearly truncate and emarginate, the lower 3 cleft, the segments broad, short, acute. *Corolla* purple, vexillum large, reflected, the keel compressed, spiral. *Legumen* broad, falcate, mucronate. *Seeds* numerous, attached alternately to each valve.

Grows in damp rich land. Along the margins of swamps.
Flowers July—September.

STROPHOSTYLES. E.

Carina cum staminibus styloque spiraliter torta. *Legumen* teres, subbiloculare. *Semina* cylindrico-reniformia.

Keel with the stamens and style spirally twisted. *Legumen* terete, somewhat bilocular. *Seed* reniform, nearly cylindrical.

1 ANGULOSA.

S. foliis ternatis, foliolis angulatis, bilobis trilobisque; pedunculo foliis longiore; floribus capitatis.

Leaves ternate, leaflets angular 2—3 lobed; peduncles longer than the leaves; flowers in heads.

Glycine angulosa. Sp. pl. 3. p. 1056. Muhl. Cat. p. 64.
Phaseolus trilobus. Mich. 2. p. 60. Pursh. 2. p. 470.

Annual. *Stem* prostrate, a little scabrous and hairy. *Leaflets* a little hairy particularly along the veins and margin, sometimes distinctly 3 lobed, sometimes only angled, with one lateral lobe entire and the other wanting. Common *Petioles* about 2 inches long. *Flowers* (8—14) clustered at the summit of peduncles 4 to 6 inches long. *Stipules* small, acute, membranaceous. *Calyx* 4-cleft, the upper segment oval, slightly 2-cleft. *Corolla* purple; the vexillum reflected; wings short, erect; keel acuminate, spirally twisted, depressing the vexillum. *Stamens* diadelphous, long, and with the style included in the carina and bending with it. *Legume* terete, slender, pubescent. *Seeds* many, reniform, somewhat cylindrical.

On the sea coast of Carolina the leaves of this plant vary as I have described them. Dr. Baldwin sent me, from the neighbourhood of St. Mary's, specimens much more distinctly 3-lobed and resembling very strongly the figure of Plukenet Alm. t. 120. f. 7. referred to by Linnæus under the Glycine triloba.

Grows on the sand hills along the margin of the ocean.

Flowers August to October.

2. Helvola.

S. foliis ternatis, deltoidibus, oblongis; floribus capitatis; vexillis brevibus; alis expansis, maximis.	Leaves ternate, deltoid, oblong; flowers in heads; vexillum short; wings expanded, very large.

Phaseolus helvolus. Willd. Sp. pl. 3. p. 1032. Pursh 2. p. 470.

This plant is to me still obscure; among all the specimens I have seen belonging to this genus, I have met with none with large expanded wings.

Grows in Carolina. Linnæus.

Flowers.

3. Peduncularis. Muhl.

S. foliis ternatis, oblongo ovatis; floribus capitatis; vexillo majusculo, emarginato; alis parvulis; seminibus lanosis.	Leaves ternate, oblong ovate; flowers in heads; vexillum large, emarginate; wings small; seeds woolly.

Phaseolus helvolus. Mich. 2. p. 60. Walt. p. 182.
P. vexillatus. Pursh 2. p. 470.

Stem prostrate or climbing on small shrubs, and with the whole plant a little hairy. *Leaves* oblong, ovate, tapering a little irregularly towards the summit. Common *petioles* 10—15 lines long. *Stipules* lanceolate, acute. *Flowers* 5—7 at the summit of a common peduncle, 6—7 inches long. *Calyx* 4-parted; upper segment broad, obtuse. *Corolla* purple. *Vexillum* nearly round. *Wings* oval, small, angled, as usual in this class, near the base. *Carina* as long as the vexillum, spiral. *Legumen* terete, a little hairy.

Grows in dry and fertile soils.

Flowers July to September.

The plants in this genus form a small but very natural group. They have been arranged by different Botanists as species of Phaseolus, Dolichos and Glycine: to the Glycine, as it now remains in this sketch, they have no affinity, but they certainly form an intermediate genus between the Dolichos and the Phaseolus, resembling the former very much in its habit and in the legumen, the latter in the structure of the corolla, and they might be arranged with either of these genera with great propriety, if only one feature of its inflorescence is considered.

DOLICHOS. GEN. PL. 1181.

Vexilli basis callis 2-parallelis oblongis, alas subtus comprimentibus.	Base of the *vexillum* furnished with 2 parallel, oblong callosities, compressing the wings.

1. LUTEOLUS.

D. volubilis, pubescens; foliolis ovatis, acuminatis ; pedunculis foliis longioribus ; spicis brevibus, sub capitatis; vexillo lato, reflexo; alis rhomboideis.	Voluble, pubescent, leaflets ovate, acuminate ; peduncles longer than the leaves ; spikes short, somewhat capitate ; vexillum broad, reflected; wings rhomboidal.

Sp. pl. 3. p. 1038. Pursh 2. p. 470. Nutt. 2. p. 112.

Annual. *Stem* running over small shrubs. *Leaflets* ovate, tapering to a very acute point, very slightly acuminate, on peduncles 1—2 inches long. *Flowers* 3—5 at the summit of peduncles 2—4 inches long. *Calyx* 5-cleft, with the lower segment longer than the rest. *Corolla* pale yellow. *Carina* rather longer than the vexillum, compressed, not at all spiral. *Legumen* somewhat compressed, a little hairy.

Grows in wet land. Very common along the margins of the rice fields around Savannah.

Flowers October—November.

APIOS. MOENCH.

Calyx subbilabiatus, truncatus, uniden-	*Calyx* somewhat 2 lipped, truncated, one

tatus. *Carina* falcata, vexillum reflectens. *Germen* basi vaginatum. *Legumen* coriaceum, polyspermum.

toothed. *Keel* falcate, reflecting the vexillum. *Germ* sheathed at base. *Pod* coriaceous, many seeded.

1. Tuberosa.

Pursh 2. p. 473. Nutt. 2. p. 113.
Glycine apios. Sp. pl. 3. p. 1067. Walt. p. 186. Mich. 2. p. 83.

Root perennial, bearing small tubers. *Stem* frutescent, voluble, climbing over large shrubs, a little scabrous and hairy. *Leaves* unequally pinnate. *Leaflets* 5—7, ovate-lanceolate, acute, slightly scabrous and sprinkled with hair. *Stipules* linear, hairy, small. *Flowers* numerous, on axillary racemes, shorter than the leaves. *Calyx* with the upper lip truncated, the lower with one, sometimes with three small teeth. *Corolla* brown. *Vexillum* reflected. *Wings* smaller, erect. *Keel* as long as the vexillum, incurved. *Stamens* and *Style* incurved with the keel. *Legumen* terete, glabrous. *Seeds* reniform.

This genus, in its artificial character, agrees very nearly with the preceeding, it differs however in its calyx, its germ, and very much in its habit, and may with propriety be kept distinct.

This plant was the original Glycine of Linnæus, and ought to have retained the name. The tubers formed an article of food to the Aborigines of this country.

Grows in damp rich soils, along the margins of swamps.

Flowers July—August.

AMPHICARPA. E.

Calyx quadridentatus. *Petala* oblonga, æqualia. *Vexillum* lateribus appressis. *Stigma* capitatum. *Legumen* compressum, stipitatum, 2—4 spermum.

Calyx four toothed. *Petals* oblong, equal. *Vexillum* with the sides appressed. *Stigma* capitate. *Pod* compressed, stipitate, 2—4 seeded.

1. Monoica.

A. foliis ternatis, ovatis, glabris; caule

Leaves ternate, ovate, glabrous; stem

piloso; racemis caulinis pendulis, corollatis sterilibus; pedunculis radicalibus apetalis, fructiferis. Will.

hairy; racemes of the stem pendulous, bearing petals, sterile; peduncles from the root, without petals, bearing fruit.

Journal Nat. Sci. Philada. 1. p. 373. Nutt. 2. p. 113.
Glycine Monoica. Sp. pl. 3. p. 1055. Mich. 2. p. 64. Pursh 2. p. 485.
Anon. Carolin. Walt. p. 188.

Root perennial, creeping. *Stem* voluble, climbing over shrubs, angular, retrorsely hairy. *Leaves* ternate, ovate lanceolate, thin, hairy, scabrous on the upper surface; common petiole 3—4 inches long. *Stipules* ovate, subulate, hairy. *Flowers* in clustered pendulous racemes, generally sterile. *Calyx* tubular, a little gibbous at base, hairy, 4-toothed, teeth acuminate. *Corolla* white, tinged with violet, segments of the staminiferous tube alternately long and short. *Anthers* oblong. *Germ* sheathed at base. *Legume* smooth, 3—4 seeded.

Besides the flowers that we have described, this plant appears to produce near the surface of the earth racemes, of which the flowers are only furnished with a calyx, and the rudiments of a style. From these proceed a one seeded, ovate, torulose pod, which sinks into the earth and there ripens. I have known the plant cultivated for these subterraneous pods, which were used as a vegetable for the table.

Grows in rich light lands.

Flowers through the summer.

2. Sarmentosa.

A. foliis ternatis ovatis, glabris; racemis filiformibus, subtrifloris; floribus apetalis; leguminibus oblongis, dispermis. Willd.

Leaves ternate, ovate, glabrous; racemes filiform, generally three flowered; flowers apetalous; pods oblong, two seeded.

Nutt. 2. p. 114.
Glycine Sarmentosa. Sp. pl. 3. p. 1055. Pursh 2. p. 485.

Stem voluble. *Leaves* ternate; leaflets ovate, acute, 1½ inches long. Summits of the branches filiform, hanging down, bearing flowers. *Ca-*

lyx villous, short, 4-toothed. *Corolla* 0. *Pod* oblong, compressed, 2-seeded. *Seeds* grey, spotted with black. Willd.

Grows in Carolina.

Flowers July—August. Pursh.

GLYCINE Gen. Pl. 1182.

Calyx quadrifidus, lacinia superiore bidentata. *Alæ* basi bidentatæ. *Germen* basi nudum. *Legumen* compressum, dispermum, sessile.	*Calyx* 4-cleft, the upper segment two toothed. *Wings* two toothed at base. *Germ* naked at base. *Pod* compressed, two seeded, sessile.

1. SIMPLICIFOLIA. Walt.

G. foliis simplicibus, orbiculatis, rugosis; fasciculis terminalibus, axillaribusque.	Leaves simple, orbicular, rugose; clusters terminal and axillary.

Nutt. 2. p. 115.
G. tomentosa var. monophylla Mich. 2. p. 63.
Trifolium simplicifolium Walt. p. 184.

Stem about 2—4 inches high simple, erect and tomentose. *Leaves* round, sometimes with a small point, sometimes slightly cordate. *Petioles* 1—2 inches long. *Stipules* obliquely lanceolate, pubescent. *Clusters* 5—6 flowered, rarely axillary. *Calyx* 4 parted, the segments lanceolate, acute, the upper one 2-cleft; as long as the Corolla. *Corolla* yellow, the wings at base toothed on each side. *Stamens* diadelphous. *Anthers* globose nearly white. *Legume* falcate, pubescent, mucronate. *Seeds* orbicular, speckled.

In this and the two succeeding species, the under surface of the leaves, the calyx and the legume are sprinkled with glandular atoms.

Grows in dry soils.

Flowers May and August.

2. TOMENTOSA.

G. caule volubili; foliis ternatis, rhom-	Stem voluble; leaves ternate, rhomboidal,

beis, rugosis; fasciculis axillaribus, paucifloris, petiolo brevioribus.	rugose; clusters axillary, few flowered, shorter than the petiole.

Sp. pl. 3. p. 1061. Mich. 2. p. 63: var volubilis. Pursh 2. p. 486.

Stem climbing over low shrubs, acutely angled, villous. *Leaves* generally rhomboidal, the intermediate one sometimes almost round, triply nerved, common petiole 1—2 inches long. *Stipules* ovate, lanceolate, acute, villous. *Flowers* rarely exceeding 6 in each cluster; common peduncle about half an inch long. *Calyx* 4 parted,the segments very acute, somewhat falcate, as long as the corolla, the upper one 2-cleft. *Corolla*, small, yellow, vexillum reflected, the wing toothed only on the inner side. *Legume* falcate, villous. *Seeds* reniform, speckled, compressed.

Grows in dry soils.

Flowers May and July.

3. ERECTA. Walt.

G. caule erecto; foliis ternatis, ovalibus, subacutis; racemis axillaribus terminalibusque, petiolo longioribus.	Stem erect; leaves ternate, oval, nearly acute; racemes axillary and terminal, longer than the petiole.

Nutt. 2. p. 114.
G. tomentosa var. erecta. Mich. 2. p. 63. Pursh 2. p. 486.
Trifolium erectum. Walt. 184.

Root perennial. *Stem* erect, about 2 feet high, angled, tomentose. *Leaves* rugose, tomentose, triply nerved,the middle one sometimes rhomboidal; common petiole, about an inch and a half long. *Stipules* subulate, villous, raceme simple, many flowered; common peduncle, two or three inches long. *Calyx* four parted, the upper segment bifid, all acute. *Corolla* scarcely longer than the calyx, yellow, sometimes tinged with fulvous. *Wings* toothed near the base on each side. *Legume* falcate, mucronate, villous. *Seeds* reniform.

Grows in dry soils.

Flowers from June to August.

4. MOLLISSIMA. E.

G. caule erecto; foliis ternatis, foliolis	Stem erect; leaves ternate, leaflets oval,

ovalibus, mollissime tomentosis; racemis longis, multifloris, terminalibus. E.	tomentose, very soft; racemes long, many flowered, terminal.

Stem erect? angled, tomentose. *Leaves* ternate; leaflets oval, obtuse, rugose, cloathed with a velvet-like tomentum, the glandular dots less distinct on this than on the preceding species. *Racemes* 5—8 inches long. *Calyx* deeplv cleft, segments subulate, acute, nearly as long as the corolla. *Corolla* yellow. *Wings* toothed on each side near the base. The Legume I have not seen.

Grows near St. Mary's, Georgia. Dr. Baldwin.

Flowers.

5. REFLEXA.

G? volubilis; foliis ternatis, rotundato rhombeis, pubescentibus; racemis axillaribus, erectis, foliis multo longioribus; floribus ante anthesin leguminibusque reflexis.	Voluble; leaves ternate rhomboidal, nearly round, pubescent; racemes axillary, erect, much longer than the leaves; flower buds and pods reflected.

Nutt. 2. p. 115.

Root perennial. *Stem* angled, branching, climbing over tall shrubs, pubescent particularly along the angles. *Leaflets* 3-nerved, covered with a soft pubescence, the lateral leaflets generally round, the middle one frequently rhomboidal. Common *Petioles* 1—2 inches long. *Stipules* subulate. *Racemes* 4—5 inches long, many flowered. *Peduncles* angled. *Calyx* 4-cleft, segments acute, the upper one 2-cleft, the lower longer than the rest. *Corolla* yellow, longer than the calyx. the petals all equal, the wings 1-toothed near the base. *Legume* falcate, pubescent, mucronate. *Seeds* reniform, glabrous.

The corolla, the seeds and the habit of this plant distinguish it from the other species of this genus, although in character it is very closely allied to them.

Grows on Paris' Island, running over high shrubs, along the edge of the Island at Mr. Habersham's plantation. Found also near St. Mary's, Georgia. by Dr. Baldwin.

Flowers August—October.

In the Journal of Natural Sciences published at Philadelphia, vol. i. p. . I offered some observations on the genus Glycine and some of its kindred genera. I there proposed to retain the name Glycine to the G. Apios the original type of the genus, and to this group I gave the name of Baldwinia as a tribute of respect to the late Dr. Baldwin, whose name occurs so often in this work. I still think this arrangement the most correct, but another has been extensively adopted, and I wish not unnecessarily to multiply synonymes.

THYRSANTHUS. E.

Calyx bilabiatus, labio superiore truncato, emarginato, inferiore trifido. *Vexillum* basi callosum. *Alæ* apice cohœrentes. *Tubulus* denticulatus basin stipitis ovarii vaginans. *Legumen* torulosum, subteres, polyspermum.

Calyx 2-lipped, the upper lip truncate, emarginate, the lower three cleft. *Vexillum* callous at base. *Wings* cohering at the summit. A small denticulate *tube* sheathing the base of the ovarium. *Pod* torulose, nearly terete, many seeded.

1. Frutescens.

Journal of the Acad. of Nat. Sciences, Philad. 1. p. 371.
Glycine Frutescens. Sp. pl. 3. p. 1067. Mich. 2. p. 63.
Anon. Frutescens. Walt. p. 186.
Apios Frutescens. Pursh 2. p. 474.
Wisteria Speciosa. Nutt. 2. p. 116.

A twining shrub, climbing over bushes and small trees to some height, particularly along the margins of rivers; the young branches angular and pubescent. *Leaves* pinnate, generally 4 pair with an odd one; *leaflets* ovate lanceolate, slightly acuminate, pubescent. *Flowers* in clustered panicles (thyrsi,) axillary. *Bracteas* large, ovate lanceolate, acuminate, coloured, one at the base of each flower-bud. *Flowers* purple; vexillum broad, reflected at the summit, greenish near the base. *Keel* incurved at the summit, not deflecting the vexillum. *Pod* long, leathery, a little rugose, many seeded. *Seeds* reniform, speckled.

This very ornamental plant grows in damp rich soils.

Flowers April—May.

GALACTIA. Brown.

Calyx 4-dentatus, bibracteatus. *Petala* omnia oblonga, *vexillo* latiore incumbente. *Stigma* obtusum. *Germen* basi nudum. *Legumen* teres, polyspermum.

Calyx 4-toothed, with 2 bracteas at base. *Petals* all oblong, the *Vexillum* broad, incumbent. *Stigma* obtuse. *Germ* naked at base. *Pod* terete, many seeded.

1. Mollis. Mich.

G. foliis ternatis, foliolis ellipticis, canescenti-villosis; racemis axillaribus, foliis multo longioribus; floribus pedicellatis.

Leaves ternate, leaflets elliptic, villous, hoary; racemes axillary, much longer than the leaves; flowers pedicellate.

Mich. 2. p. 61. Pursh 2. p. 486. Nutt. 2. p. 117.

Root perennial. *Stem* prostrate or climbing over small plants, terete, villous. *Leaflets* conspicuously veined on the under surface; common petiole about 1½ inches long. *Stipules* subulate. Common *Peduncles* 5—8 inches long, partial rarely exceeding 2 lines. *Flowers* commonly 3 from each bud. *Calyx* villous, 4-cleft, segments acute, the lower one a little longer than the rest. *Bracteas* 2, subulate, at the base of the calyx. *Corolla* small, purple; vexillum obovate, glaucous underneath. *Stigma* globose. *Legume* straight, hispid, hooked at the point.

This appears to be the real G. Mollis of Michaux, but I have some doubts whether it is not the G. Pilosa of Nuttall.

Grows in dry soils.

Flowers through the whole summer.

2. Pilosa? Nutt.

G. parce pilosa; foliis ternatis, oblongo-ovatis, subacutis, subtus pallidis; racemis axillaribus, folio mul-

A little hairy; leaves ternate, oblong, ovate, somewhat acute, pale underneath; racemes axillary much

to longioribus; floribus sparsis, breviter pedicellatis. E.

longer than the leaves; flowers scattered on short pedicels.

Nutt. 2. p. 116.

A vine climbing over small shrubs. *Leaflets* ovate and oval, mucronate, nearly glabrous on the upper surface, hairy underneath. *Racemes* 6—12 inches long. *Flowers* scattered, 2—3 at each bud, on short peduncles. *Calyx* a little hairy. *Bracteas* small. *Corolla* pale purple. *Legume* villous.

This species has great resemblance to the G. Glabella. It differs however in its leaves which are smaller, more ovate, rather acute and mucronate, and in its racemes, which are much longer, with smallerflowers. I feel by no means certain that this is the plant of Mr. Nuttall.

Grows in dry shady soils.

Flowers through the summer.

3. GLABELLA.

G. foliis ovatis ellipticisque, utrinque emarginatis, supra glabris, subtus parce pilosis; racemis axillaribus, folia subæquantibus; calycibus glabris; leguminibus villosis.

Leaves ovate and elliptic, emarginate at each end, glabrous on the upper surface, a little hairy underneath; racemes axillary as long as the leaves; calyx glabrous; pods villous.

Mich. 2. p. 62. Pursh 2. p. 487. Nutt. 2. p. 117.
Ervum volubile. Walt. p. 187.

Root perennial. *Stem* climbing over shrubs, terete, a little hairy. *Leaves* ternate glabrous and nearly smooth on the upper surface, entire, a little hairy underneath; common petiole about an inch long. *Racemes* about as long as the leaves, sometimes a little longer. partial peduncles about 2 lines long. *Bracteas* 2 small scales at the base of the calyx. *Corolla* larger than in the preceding species, reddish purple, vexillum externally glaucous. *Style* much longer than the stamens. *Legume* falcate. *Seeds* oval.

Grows in dry rich shaded soils.

Flowers through the whole summer.

4. ELLIOTTI. Nutt.

G. foliis pinnatis, foliolis ellipticis, emarginatis, supra glabris, subtus pubescentibus; racemis elongatis, paucifloris.

Leaves pinnate, leaflets elliptic, emarginate, glabrous on the upper surface, pubescent underneath; racemes long, few flowered.

Nutt. 2. p. 117.

Root perennial. *Stem* voluble, climbing over small shrubs. *Leaves* unequally pinnate; leaflets about 7, lucid yet sometimes a little scabrous on the upper surface; common petiole 2—3 inches long. *Flowers* nearly sessile, somewhat clustered at the summit of the peduncle. *Peduncles* generally shorter than the leaves, sometimes longer. *Bracteas* subulate. *Calyx* a little hairy, 4-cleft, the lower segment the longest. *Corolla* twice as long as the calyx, white tinged with red when dry. *Legume* compressed, villous, falcate, hooked at the point. *Seeds* 3—5, reniform, smooth, speckled.

This plant was sent many years ago to Dr. Muhlenberg as the G. Pinnata, and was published under that name in his catalogue. Mr. Nuttall finding the name pre-occupied, has published it under the present.

Grows about three miles from Beaufort along the mail road.

Flowers May—July.

CLITORIA. GEN. PL. 1183.

Calyx tubulosus, campanulatusve, 5-dentatus. *Corolla* resupinata, vexillo maximo, patente, alas obumbrante. *Legumen* lineare, acuminatum, polyspermum.

Calyx tubular, campanulate, 5 toothed. *Corolla* resupine, with the vexillum large, expanding, covering the wings. *Pod* linear, acuminate, many seeded.

1. VIRGINIANA.

C. foliis ternatis, ovatis; calyce bracteis

Leaves ternate, ovate; calyx scarcely

vix longiore, 5 partito, laciniis subulatis, divergentibus; leguminibus subensiformibus.

longer than the bracteas, 5 parted, with the segments subulate, diverging; pods somewhat ensiform.

Willd. Sp. pl. 3. p. 1069. Walt. p. 186. Mich. 2. p. 62. Pursh. 2. p. 487.

Root perennial. *Stem* voluble, climbing over small shrubs, slightly scabrous. *Leaves* ternate, oblong, ovate, slightly mucronate, a little scabrous on the upper surface, smooth and reticulated underneath, common petiole about 2 inches long. *Racemes* axillary, short, generally 3 flowered. *Bracteas* 2, lanceolate, acute, pubescent, at the base of the calyx. *Calyx* campanulate, scarcely longer than the bracteas, with the two lower segments longer than the rest. *Corolla* large and pale violet. *Stamens* diadelphous. *Legume* long, nearly terete, glabrous.

Grows in moderately dry soils.

Flowers June and September.

2. MARIANA.

C. foliis ternatis; calyce bracteis lineari lanceolatis multoties majore, tubuloso, quinquefida; legumine toruloso.

Leaves ternate; calyx tubular, 5 cleft, much longer than the linear lanceolate bracteas; pods torulose.

Sp. pl. 3. p. 1070. Walt. p. 186. Mich. 2. p. 62. Pursh 2. p. 487. Nutt. 2. p. 118.

Root perennial. *Stem* sometimes erect, about two feet high, sometimes voluble, smooth. *Leaflets* ovate, smooth, a little glaucous underneath, common petiole 10—15 lines long. *Flowers* 1—2 on peduncles about an inch long. *Calyx* cylindrical, smooth, segments very acute. *Corolla* pale blue; sometimes white. *Legume* about 3 seeded (seeds glutinous. Mich.)

Grows in dry soils, moderately fertile.

Flowers May and August.

ROBINIA. GEN. PL. 1195.

Calyx 4-fidus, lacinia superiore biparti-

Calyx 4-cleft, the upper segment 2-part-

ta. *Vexillum* reflexo-patens, subrotundum. *Legumen* compressum, elongatum, polyspermum.

ed. *Vexillum* nearly round, expanded, reflected. *Pod* compressed, long, many seeded.

1. PSEUDACACIA.

R. foliis impari-pinnatis; stipulis spinescentibus; racemis pendulis; calycis dentibus muticis; leguminibus lævibus.

Leaves unequally pinnate; stipules spiny; racemes pendulous; teeth of the calyx unawned; pods smooth.

Sp. Pl. 3 p. 1131. Walt. p. 186. Mich. 2 p. 65. Pursh. 2 p. 487. Mich. arb. for. 3. p. 245.

A tree about 30 feet high, (sometimes 60—80. Mich.) *Leaves* unequally pinnate, with 4—7 pair of leaflets, *leaflets* frequently alternate, oval, emarginate, pubescent. *Racemes* axillary, simple. *Calyx* pubescent, spotted, 4 cleft, the upper segment broad, emarginate, the three lower acute. *Corolla* white, vexillum large with the sides reflected. *Legume* smooth.

This tree which is frequently cultivated for ornament on account of the beauty and fragrance of its flowers, is also much valued for the quality of its wood. It is supposed to make the most durable posts, when exposed to the weather, of any tree in this country, and is also preferred to any other wood for the trunnels of vessels.

Grows in the mountains in rich fertile soils. Not found in its native state on the sea coast of Carolina.
Flowers March and April.

2. VISCOSA.

R. foliis impari pinnatis; racemis axillaribus, erectis, confertifloris; calycibus acuminatis; ramis, petiolis, pedunculis, legu-

Leaves unequally pinnate; racemes axillary, erect, with the flowers crowded; calyx acuminate; branches, petioles, peduncles

minibusque glanduloso-viscosis.

and pods viscid, glandular.

Sp. pl. 3. 1131. Mich. 2. p. 65. Pursh 2. p. 488. Mich. arb. for. 3. p. 262.

A tree growing from 20—40 feet high. *Leaves* unequally pinnate, with 5—7 pair of leaflets. The *Petioles*, *Peduncles*, and young wood covered with a viscid pubescence. *Corolla* white, tinged with pink. *Pod* obliquely lanceolate, mucronate, when young pubescent, 3—5 seeded.

Grows in the mountains of Carolina and Georgia along the margins of streams.

Flowers April and May.

3. HISPIDA.

R. foliis impari-pinnatis; foliolis rotundato-ovalibus, mucronatis; racemis axillaribus; calycibus acuminatis; caule subinermi; ramis, pedunculis, calycibus, leguminibusque hispidis.

Leaves unequally pinnate; leaflets oval, nearly round, mucronate; racemes axillary; calyx acuminate; stem unarmed; branches, peduncles, calyx and pods hispid.

A small shrub, 3—6 feet high extending very much with its creeping roots, and with all its branches, petioles, peduncles, and calyx very hispid. *Leaflets* oval and ovate, sometimes nearly round, pubescent underneath. *Flowers* in simple axillary racemes, generally pendulous. *Calyx* sometimes almost equally 5-cleft, with the segments acuminate. *Corolla* large of a bright rose colour, very ornamental.

Grows in the mountains of Carolina.

Flowers April.

I have two plants belonging to this genus, which require further examination. I have not the means at present necessary for an accurate description.

1. ROSEA.

A shrub about 3 feet high, not hispid. *Stipules* spiny. Young branches, petioles and under surface of the leaves pubescent. *Leaflets* elliptic. *Flowers* rose coloured.

Grows in the high pine barrens, between Waynesborough and Wrightsborough in Columbia County, Georgia. Scarcely a variety of R. hispida.

2. NANA.

Whole plant scarcely a foot high. *Flowers* rose coloured.

Grows in the pine barrens near Columbia, South-Carolina.—Mr. Herbemont.

INDIGOFERA.

Calyx patens. *Corollæ* carina utrinque calcari subulato patulo. *Legumen* lineare, parvulum, subquadrangulare.

Calyx expanding. *Corolla* with the keel bearing a subulate spur on each side. *Pod* linear, small, somewhat angular.

1. Caroliniana. Walt.

I. foliis pinnatis; foliolis ovalibus obovatisque; spicis folio longioribus; leguminibus dispermis, reticulato venosis.

Leaves pinnate, leaflets oval and obovate; spikes longer than the leaves; pods two seeded, reticulate, veiny.

Walt. p. 187. Mich. 2. p. 68. Pursh. 2. p. 448. Nutt. 2 p. 119.

Root perennial. *Stem* erect 3—7 feet high, branching, striate, glabrous, the young branches sprinkled with hair. *Leaves* unequally pinnate. *Leaflets* about 6 pair, entire, mucronate, a little hairy, slightly glaucous underneath. *Stipules* 2 at the base of each petiole. *Flowers* subulate, very short, in simple axillary spikes or racemes twice as long as the leaves; common peduncle 5—6 inches long, partial peduncle 2 lines long, a small subulate bractea at the base of each partial peduncle. *Calyx* campanulate, pubescent, 5-toothed, teeth small. *Corolla* longer than the calyx. brown; vexillum a little hairy on the out side; keel longer than the vexillum, with a subulate spur on each side, near the base. Segments of the staminiferous tube very short, unequal. *Anthers* oblong. *Stigma* capitate. *Pod* short, a little turgid, mucronate, glabrous, seed reniform.

Grows in dry poor soils.

Flowers July and September.

TEPHROSIA.

Calycis dentibus subulatis, subæqualibus. *Stamina* monadelpha? *Legumen* compressum, subcoriaceum.

Teeth of the *calyx* subulate, nearly equal. *Stamens* monadelphous? *Pod* compressed, coriaceous.

1. Virginiana.

T. erecta, pubescens; foliolis plurimis, oblongo-lanceolatis, acutis; racemo terminali, subsessili; leguminibus falcatis.	Erect, pubescent; leaflets numerous, oblong-lanceolate, acute; raceme terminal, nearly sessile; pods falcate.

Pursh 2. p. 489. Nutt. 2. p. 119.
Galega Virginiana. Sp. pl. 3. p. 1244. Walt. p.

Root perennial, stoloniferous. *Stems* about a foot high, in dense clusters, somewhat angular, pubescent, hairy towards the summit. *Leaves* alternate, unequally pinnate; *leaflets* numerous from 11—25, oblong lanceolate. *Flowers* in compact, terminal racemes. *Calyx* hairy, deeply 5-cleft. *Corolla* dull yellow, tinged with purple, vexillum longer than the wings and keel. *Pod* compressed, falcate, very hairy. *Seeds* reniform.

Grows in dry pine barrens.
Flowers May and July.

2. Hispidula.

T. caule erecto, gracili, pubescente, dichotomo; foliis pinnatis, foliolis (11—15) ellipticis, subretusis, mucronatis, subtus pilosis; racemis folia æquantibus, paucifloris; leguminibus mucronatis, hispidulis.	Stem erect, slender, pubescent, dichotomous; leaves pinnate, leaflets (11—15) elliptic, slightly retuse, mucronate, hairy underneath; racemes as long as the leaves; few flowered; pods mucronate, slightly hispid.

Pursh 2 p.. 489.
T. gracilis. Nutt. 2. p. 119.
Galega hispidula. Mich. 2. p. 68.

Root perennial. *Stem* about 2 feet high, slender, very much divided, finely pubescent. *Leaflets* oblong, obtuse, sometimes retuse, mucronate, nearly glabrous on the upper surface, very hairy and slightly coloured on the under, ribbed. *Stipules* 2, subulate, villous, at the base of each petiole. *Racemes* opposite the leaves, 3—6 flowered. *Calyx* very villous, segments subulate, expanded. *Corolla* pale red; vexillum externally pubescent. *Pod* about an inch and a half long, straight, mucronate, somewhat hispid. *Seeds* compressed, reniform, 4—7, spotted.

This plant as remarked by Mr. Nuttall, differs in some slight degree from the Galega hispidula of Michaux, but too slightly I think to constitute a new species.

Grows in dry soils.

Flowers May and August.

3. PAUCIFOLIA. Nutt.

T. caule decumbente, villosissimo; foliis sparsis, pinnatis; foliolis cuneato ovalibus, subtus villosis; pedunculis foliis multo longioribus, paucifloris.

Stem decumbent, very villous; leaves distant, pinnate; leaflets oval, cuneate at base, villous underneath; peduncles much longer than the leaves; few flowered.

Nutt. 2. p. 119.
Galega villosa. Mich. 2. p. 67.
——— Spicata. Walt. p. 188.

Root perennial. *Stem* sometimes erect, generally decumbent and prostrate, very villous, the pubescence generally rufous. *Leaves* scattered, pinnate, leaflets 11—15, elliptic, obtuse, mucronate, generally cuneate at base, very hairy, almost hispid on the under surface, sometimes pubescent, sometimes nearly glabrous on the upper. *Petiole* like the stem very villous. *Peduncles* opposite the leaves, very long, generally bearing 4 or 5 flowers, sometimes more, less villous than the stem. *Bracteas* lanceolate, villous. *Calyx* hispid, segments subulate. *Corolla* red, vexillum on the outer surface very hairy. *Legume* compressed, falcate, hispid.

I have little doubt that this plant is the real G. villosa of Michaux though not of Pursh. *Sparsifolia* would, I think have been a more appropriate name, than the one which has been imposed upon it.

Grows in dry soils. Very common.

Flowers through the summer.

4. CHRYSOPHYLLA. Pursh.

T. prostrata, pubescens; foliis pinnatis, quinis, subsessili-

Prostrate, pubescent; leaves pinnate, by fives, nearly ses-bus; foliolis cuneato-obovatis, obtusissimis, supra glabris, subtus sericeis; pedunculis oppositifoliis, elongatis, sub 3 floris; leguminibus rectiusculis.

sile; leaflets cuneate, obovate, very obtuse, glabrous on the upper surface, silken underneath; peduncles opposite the leaves, long, generally 3-flowered; pods nearly straight.

Pursh 2. p. 489.
T. Prostrata. Nutt. 2. p. 120.

Stem prostrate and pubescent. *Leaves* pinnate, subsessile, leaflets cuneate obovate, coriaceous, smooth above, sericeously villous underneath. *Peduncles* about 3 flowered, opposite to and longer than the leaves. *Legume* linear and nearly straight. Nutt.

Common around Savannah in dry and sandy soils. Nutt.

Flowers through the summer.

MEDICAGO. Gen. Pl. 1214.

Carina corollæ a vexillo deflectens. *Legumen* compressum, cochleatum.

Keel of the corolla bending from the vexillum. *Pod* compressed, spiral.

1. Lupulina.

M. spicis ovalibus; leguminibus reniformibus, monospermis; stipulis integerrimis; foliolis obovatis; caulibus procumbentibus.

Spikes oval; pods reniform, one seeded; stipules entire; leaflets obovate; stems procumbent.

Willd. Sp. pl. 1406. Walt. p. 186. Mich. 2. p. 60. Pursh. 2. p. 490.

Stem diffuse, prostrate and assurgent, rarely exceeding a foot in height, angled, hairy. *Leaves* ternate, nearly sessile; *leaflets* obovate, emarginate, denticulate near the summit, hairy. *Stipules* obliquely lanceolate, acuminate, hairy, extended at base, longer than the petiole. *Flowers* in oval or globular axillary heads, common peduncles about an inch and a half long. *Bracteas* small, ovate, acuminate, at the base of each partial peduncle. *Calyx* hairy, border 5-cleft, the lower segments longer than the rest. *Corolla* yellow, the vexillum twice as long as the wings, and keel. *Pod* coriaceous, spirally twisted, 1-seeded. *Seed* reniform glabrous.

Grows in dry sandy soils. An exotic now completely naturalized.

Flowers April and June.

2. INTERTEXTA.

M. pedunculis subbifloris; leguminibus cochleatis, ovalibus; aculeis pubescentibus, setaceis, distichis, adpressis; stipulis ciliato-dentatis; foliolis obovatis, dentatis.

Peduncles somewhat 2 flowered; pods spiral, oval; prickles pubescent, setaceous, distichous, appressed; stipules fringed, toothed; leaflets obovate toothed.

Sp. pl. 3. p. 1411. Walt. p. 186. Pursh. 2. p. 490.

This species with the M. Sativa, and M. Nigra—spring up occasionally in our enclosures, but neither of them appear to be naturalized in this country.

CLASS XVIII.

SYNGENESIA.

POLYGAMIA ÆQUALIS.

§ 1. Semiplosculosi.

457 LEONTODON.
458 BORKHAUSIA.
459 LACTUCA.
460 SONCHUS.
461 PRENANTHES.
462 HIERACIUM.
463 KRIGIA.
464 APOGON.

§ 2. Capitati.

465 STOKESIA.
466 CNICUS.
467 LIATRIS.
468 VERNONIA.
469 BRICKELLIA.

§ 3. Discoidei.

470 KUHNIA.
471 MIKANIA.
472 EUPATORIUM.
473 CHRYSOCOMA.
474 CACALIA.
475 SPARGANOPHORUS.
476 HYMENOPAPPUS.
477 POLYPTERIS.
478 MELANANTHERA.
479 MARSHALLIA.

POLYGAMIA SUPERFLUA.

§ 1. Discoidei.

480 ARTEMISIA.
481 BACCHARIS.
482 CONYZA.
483 PTEROCAULON.
484 GNAPHALIUM.

§ 2. Radiati.

485 SENECIO.
486 ARNICA.
487 CHRYSOPSIS.
488 ASTER.
489 SOLIDAGO.
490 ERIGERON.
491 BOLTONIA.
492 CHRYSANTHEMUM.
493 HELENIUM.
494 ECLIPTA.
495 ANTHEMIS.
496 ACHILLEA.
497 ACMELLA.
498 HELIOPSIS.
499 TETRAGONOTHECA.
500 BUPHTHALMUM.
501 SIEGESBECKIA.
502 VERBESINA.

POLYGAMIA FRUSTRANEA.

503 ACTINOMERIS.
504 HELIANTHUS.
505 BIDENS.
506 COREOPSIS.
507 LEPTOPODA.
508 BALDUINA.
509 GALARDIA.

510 RUDBECKIA.
511 CENTAUREA.

POLYGAMIA NECESSARIA.
512 CHAPTALIA.
513 SILPHIUM.
514 POLYMNIA.
515 CHRYSOGONUM.
516 GYMNOSTYLES.
517 PARTHENIUM.
518 IVA.
519 AMBROSIA.
520 XANTHIUM.

POLYGAMIA SEGREGATA.
521 ELEPHANTOPUS.

LEONTODON. Gen. Pl. 1237.

Involucrum imbricatum, squamis inferioribus, laxiusculis. *Pappus* plumosus, stipitatus. *Receptaculum* nudum.	*Involucrum* imbricate, with the lower scales loose. *Pappus* feathered, stipitate. *Receptacle* naked.

1. Taraxacum.

L. involucri squamis exterioribus reflexis; scapo unifloro; foliis runcinatis, glabris, laciniis lanceolatis, dentatis.	Exterior scales of the involucrum reflected; scape one-flowered; leaves runcinate, glabrous, the segments lanceolate, toothed.

Sp. pl. 3. 2544. Mich. 2. p. 88. Pursh, 2. p. 497. Nutt. 2. p. 123.

Root perennial. *Leaves* all from the root, oblong, runcinate, glabrous, when young a little hairy. *Scapes* several from each root, terete, glabrous, shorter than the leaves, one-flowered. *Leaves* of the involucrum numerous; the interior series equal, appressed. frequently coloured, when old reflexed, the exterior lanceolate, imbricate, slightly fringed. *Corolla* ligulate, yellow. *Seeds* oblong, angled, compressed towards the summit, slightly muricate, crowned with a stipitate hairy pappus. *Receptacle* convex, dotted, naked.

The leaves and stalk of this plant, like those of most of the semifloscu-lous plants, discharge when broken a milky acrid juice, which is generally narcotic and sometimes supposed to be poisonous.

Grows in damp soils. An exotic now naturalized.
Flowers from January to April.

BORKHAUSIA. De Candolle.

Involucrum caliculatum, squamis exterioribus laxis. *Pappus* pilosus, stipitatus. *Receptaculum* nudum.	*Involucrum* surrounded at base with a few loose scales. *Pappus* hairy, stipitate. *Receptacle* naked.

1. Caroliniana.

B. foliis oblongis, lanceolatis, glabris, rariter dentatis, interdum pinnatifidis; caule erecto, paucifloro; pedunculis elongatis.	Leaves oblong, lanceolate, glabrous, rarely toothed, sometimes pinnatifid; stem erect, few flowered; peduncles long.

Nutt. 2. p. 126.
Leontodon Carolinianum. Walt. p. 192.
Scorzonera Pinnatifida. Mich. 2. p. 89. Pursh, 2. p. 497.
Chondrilla Lævigata. Pursh, 2. p. 497.

Root perennial? *Stem* resembling a scape, about two feet high, slightly furrowed, pubescent towards the summit. *Leaves* alternate, narrow, when old pinnatifid, pubescent along the margins. *Flowers* very few, solitary on the summit of the long branches. *Involucrum* many leaved; the interior series equal, united, linear, with a dorsal tooth near the summit, the exterior slightly imbricate, subulate, short. *Florets* ligulate, very numerous, bright yellow. *Seed* oblong, compressed, striate, slightly rugose, crowned with a hairy stipitate pappus. The stipes remarkably long.

Grows in pastures and cultivated land—very common.
Flowers March—July.

LACTUCA. Gen. Pl. 1234.

Involucrum imbricatum, cylindricum, margine membranaceum. *Semina* lævia. *Pappus* simplex, stipitatus. *Receptaculum* nudum.

Involucrum imbricate, cylindrical, the scales membranaceous along the margin. *Seeds* smooth. *Pappus* simple, stipitate. *Receptacle* naked.

1. Elongata. Muhl.

L. foliis subtus lævibus, inferioribus runcinatis, integerrimis. amplexicaulibus, infimis dentatis, summis lanceolatis; floribus corymboso-paniculatis.

Leaves smooth underneath, the lower runcinate, entire, amplexicaule, the lowest toothed, the uppermost lanceolate; flowers in corymbose panicles.

Sp. pl. 3. p. 1525. Pursh, 2. p. 500. Nutt. 2. p. 124.
L. Caroliniana. Walt. p. 193.
L. Longifolia. Mich. 2. p. 85.

Root perennial? *Stem* four to seven feet high, glabrous. *Leaves* very long, glabrous, conspicuously runcinate. *Flowers* in a large terminal panicle, composed of small corymbiform clusters. *Involucrum* imbricate, the interior leaves long, appressed until the seed matures, then reflected. *Florets* numerous. *Corolla* ligulate, yellow. *Seed* compressed, crowned with a stipitate, hairy pappus.

Grows in rich and damp soils.

Flowers July—September.

2. Graminifolia. Mich.

L. caule erecto, simplici; foliis inermibus, plerisque indivisis, basi simplici, longissime linearibus; panicula

Stem erect, simple; leaves unarmed, generally undivided, simple at base, long, narrow; panicle leafless, loose,

aphylla, laxa, ramis rarifloris, floribus omnibus pedunculatis. Mich.	the branches few-flowered; flowers all on peduncles.

Mich. 2. p. 85. Pursh, 2. p. 500. Nutt. 2. p. 124.

Stem about three feet high, glabrous. *Leaves* sessile, long, tapering to an acute point, sometimes amplexicaule; the lower frequently bearing a few segments, always acute, sometimes runcinate, somewhat glaucous underneath and fringed along the midrib. *Flowers* in a loose terminal panicle. *Involucrum* imbricate, the leaves subulate. *Florets* about twenty; corolla ligulate, purple. *Seeds* compressed, lanceolate, serrulate, crowned with a stipitate hairy pappus.

Grows in dry and moderately fertile soils.

Flowers April—September.

3. SAGITTIFOLIA. E.

L. caule erecto, glabro; foliis oblongo-lanceolatis, acutis, integerrimis, glabris, subtus pallidioribus, arcte sessilibus, basi sagittatis; floribus paniculatis. E.	Stem erect, glabrous; leaves oblong-lanceolate, acute, entire, glabrous, pale underneath, closely sessile, sagittate at base; flowers in panicles.

Stem four to six feet high, terete, glabrous. *Leaves* closely sessile, distinctly sagittate at base, tapering to a very acute, sometimes acuminate summit. The stem leaves very entire. *Flowers* in a loose terminal panicle. *Involucrum* cylindrical. *Leaflets* subulate, glabrous. *Florets* about twenty. *Corolla* yellow? *Seed* compressed, slightly margined. *Pappus* hairy, distinctly stipitate.

I collected this plant many years ago, along the margin of a creek, in the neighbourhood of Columbia. The Corolla in my specimens has been destroyed, but if my memory is accurate, it was yellow. I have preserved no root leaves, but I certainly saw none that were either runcinate or sinuate.

Flowers July—September.

SONCHUS. Gen. Pl. 1233.

Involucrum imbricatum, ventricosum. *Pappus* sessilis, pilosus. *Receptaculum* nudum.

Involucrum imbricate, ventricose. *Pappus* hairy, sessile. *Receptacle* naked.

1. Oleraceus. Lin.

S. pedunculis subtomentosis umbellatis; involucris glabris; foliis oblongo - lanceolatis, amplexicaulibus, denticulatis, subsinuatis.

Peduncles somewhat tomentose, flowers in umbels; involucrum glabrous; leaves oblong-lanceolate, amplexicaule, slightly toothed and sinuate.

Sp. pl. 3. p. 1514. Pursh, 2. p. 501. Nutt. 2. p. 125.

Root annual. *Stem* two to five feet high, terete, glabrous, fistulous, branching, very tender and succulent. *Leaves* alternate, amplexicaule, deeply sinuate and pinnatifid, segments acute and acutely toothed, the whole plant slightly glaucous. *Flowers* in axillary umbels. *Peduncles* one to two inches long, with tufts of a cotton-like tomentum, irregularly attached to their surface. *Scales* of the involucrum subulate, appressed. *Corolla* yellow. *Seed* oblong, striate, glabrous. *Pappus* sessile.

Probably an exotic, now universally diffused in cultivated lands.

Flowers March—July.

2. Macrophyllus. Willd.

S. pedunculis hirsutis, nudis; floribus paniculatis; foliis lyratis, basi cordatis, subtus hirtis.

Peduncles hirsute, naked; flowers in panicles; leaves lyrate, cordate at base, hirsute underneath.

Sp. pl. 3. p. 1519. Pursh, 2. p. 501. Nutt. 2. p. 125.

Root tuberous, perennial. *Stem* erect, four to seven feet high. *Leaves* large, lyrate, very hairy and hispid on the under surface. *Corolla* blue. Willd.

This species I have not seen.

Grows in shaded low grounds, near Springs. Pennsylvania to Carolina. Pursh.

Flowers August—September.

3. Floridanus. Lin.

S. pedunculis subsquamosis; floribus paniculatis; foliis lyrato-runcinatis, denticulatis, petiolatis.	Peduncles somewhat scaly; flowers in panicles; leaves lyrate, runcinate, denticulate, petiolate.

Sp. pl. 3. p. 1520. Mich. 2. p. 85. Pursh, 2. p. 501. Nutt. 2. p. 125.

Stem erect, three to five feet high, glabrous. *Leaves* narrow, lanceolate, acuminate at each end, acutely denticulate, occasionally with one or two runcinate segments. *Flowers* in a long slender panicle. *Corolla* small, blue.

Grows in the upper districts of Carolina and Georgia.

Flowers July—September.

4. Carolinianus. Walt.

S. caule erecto, glabro; foliis lanceolatis, acutis, undulatis, spinuloso dentatis, basi auriculatis, semiamplexicaulibusque; floribus sub umbellatis. E.	Stem erect, glabrous; leaves lanceolate, acute, undulate, with very acute teeth, auriculate and semiamplexicaule at base; flowers somewhat umbellate.

Walt. p. 192.

Plant annual. *Stem* one to three feet high, glabrous, fistulous. *Leaves* numerous, glabrous, never acuminate, remarkable for their very numerous acute teeth, along the undulate margin. *Flowers* numerous, in small lateral and terminal umbels. *Involucrum* imbricate, slightly ventricose. *Corolla* small, yellow. *Seeds* compressed, striate. *Pappus* sessile.

Grows in damp rich soils. In river swamps very abundant.

Flowers March and April.

5. Acuminatus. Willd.

S. pedunculis subsquamosis; floribus pa-	Peduncles somewhat scaly; flowers panicu-

niculatis, foliis radicalibus subruncinatis, caulinis ovatis, acuminatis, petiolatis, medio denticulatis.

late; leaves of the root slightly runcinate, of the stem ovate, acuminate, petiolate, toothed in the middle.

Sp. pl. 3. p. 1521. Pursh, 2. p. 502. Nutt. 2. p. 125.

Stem three to four feet high. Lower *leaves* spathulate, ovate, acuminate, acutely toothed, sometimes angled, glabrous on the upper surface, pale and hairy underneath, attenuated at base, into a winged petiole, two to four inches long. *Flowers* in a loose terminal panicle, peduncles bearing a few ovate, ciliate, scales. *Involucrum* imbricate. *Florets* about fifteen. *Corolla* purple.

This plant is probably, as suggested by Willdenow the Lactuca Villosa of Jacquin, for the pappus is certainly stipitate and the habit not unlike that of our other species of Lactuca.

Grows in shady rich soils.

Flowers August—September.

PRENANTHES. Gen. Pl. 1236.

Involucrum basi imbricatum. Flosculi serie simplici. *Pappus* simplex, subsessilis. *Receptaculum* nudum.

Involucrum imbricate at base. *Florets* in a simple series. *Pappus* simple, nearly sessile. *Receptacle* naked.

1. Altissima. Lin.

P. caule ramoso; foliis trilobis, petiolatis, angulatis, denticulatis, margine scabris; racemis axillaribus; floribus nutantibus; involucris sub 5-floris.

Stem branching; leaves 3-lobed, petiolate, angled, denticulate, scabrous along the margin; racemes axillary, flowers nodding; involucrum generally 5-flowered.

Sp. pl. 3. p. 1537. Pursh, 2. p. 498.

Root perennial. *Stem* 4—6 and 8 feet high, branching, glabrous. *Leaves* alternate, deeply 3-lobed, almost hastate, the lateral segments angled near the base, the margin slightly and irregularly dentate, the under surface pale, if not slightly glaucous. *Petioles* 2—7 inches long. *Flowers* in axillary panicles. *Involucrum* cylindrical, composed of 5 strap-shaped leaves, protected at base by small imbricate scales. *Florets* generally 5, ligulate, yellow. *Seeds* angular, striate. *Pappus* sessile, scabrous.

Grows in the mountains of Carolina. Dr. Macbride.
Flowers September.

2. Cordata.

P. foliis petiolatis, ovato lanceolatis, cordatis, dentatis ciliatisque; panicula laxa, racemiflora; floribus nutantibus; involucris 6—8 floris.

Leaves on petioles, ovate lanceolate, cordate, toothed and fringed; panicle loose, with the flowers somewhat racemose; flowers nodding; involucrum 6—8 flowered.

Willd. hort. Berol. 25. Pursh 2. p. 498.

Root perennial. *Stem* 4—6 feet high, generally glabrous. *Leaves* ovate-lanceolate, cordate and angled at base, irregularly angled toothed and fringed along the circumference; upper leaves simply lanceolate. *Flowers* in long loose panicles. Interior leaves of the involucrum generally 8, somewhat lanceolate, membranaceous along the margins, the exterior only minute, ovate scales. *Florets* ligulate, pale yellow. (Pursh.) *Seeds* striate, crowned with a scabrous pappus.

Grows in the mountains of Carolina.
Flowers August—October.

3. Deltoidea. E.

P. caule simplici, glabro; foliis deltoideis, acuminatis, acute denticulatis, subtus subglaucis; racemis axillaribus, paucifloris; involucris 5-floris.

Stem simple, glabrous; leaves deltoid, acuminate, acutely denticulate, slightly glaucous underneath; racemes axillary, few flowered; involucrum 5-flowered.

Stem slender, about 2 feet high. *Leaves* on long petioles, the lower ones triangular, with an acuminated point, and the angles at base very acute, the upper ones ovate lanceolate, all denticulate, glabrous, and slightly glaucous underneath. *Flowers* in small axillary racemes, in my specimen not exceeding 3 heads in each raceme, which appear to have been nodding. *Involucrum* composed of 5 equal linear leaves, glabrous, membranaceous at the margins, and closely protected at base by small ovate imbricate scales. *Corolla* purple? *Seeds* glabrous, slightly angled and striate. *Pappus* hairy.

Collected on the Saluda Mountains by Dr. Macbride.

Flowers September.

4. Virgata. Mich.

P. glabra; caule simplicissimo; foliis omnibus runcinato-sinuatis; racemulis subsecundis; floribus pendulis; involucris 8-fidis, 10-floris.

Glabrous; stem simple; leaves all runcinate and sinuate; racemes generally secund; flowers pendulous; involucrum 8-parted, 10-flowered.

Mich. 2. p. 83. Sp. pl. 3. p. 1533. Pursh 2. p. 498.

Root perennial, somewhat tuberous. *Stem* herbaceous, erect, simple, 2—4 feet high, very glabrous. *Leaves* sessile, semiamplexicaule, deeply sinuate, with the segments on the lower leaves frequently runcinate, and sparingly toothed, the upper leaves narrow, lanceolate. *Flowers* in a long terminal raceme, composed generally of small branches, bearing commonly 3—4 flowers. Interior leaflets of the Involucrum 8, oblong, obtuse and fringed at the summit; florets 10—12 in each involucrum. *Corolla* ligulate, pale purple. *Seeds* cylindric, striate, crowned with a scabrous pappus.

Grows in damp pine barrens.

Flowers October.

5. Simplex. Pursh.

P. caule simplicissimo; foliis superioribus lineari-lanceolatis, integerrimis, radicalibus lanceolatis, sinuatis; racemo terminali, sim-

Stem simple; upper leaves linear-lanceolate, entire, those of the root lanceolate, sinuate; raceme terminal, simple; flowers

plicissimo; floribus nutantibus; involucris sub 8-floris.	**nodding; involucrum generally 8-flowered.**

Pursh 2. p. 498.

Stem about 2 feet high. *Flowers* purple. Pursh.
Is this really a distinct species, or is it a young plant of the P. virgata?
Collected in Georgia by Mr. Enslen.
Flowers July—August?

6. CREPIDINEA.

P. foliis lato lanceolatis, in petiolum attenuatis, inæqualiter angulato dentatis; panicula fasciculis terminalibus, paucifloris, nutantibus; involucris hirsutis, 10—12 fidis, sub 20-floris.	**Leaves lanceolate, wide, attenuated at base, unequally toothed and angled; panicle composed of small terminal nodding clusters; involucrum hairy, 10—12 cleft, generally 20-flowered.**

Mich. 2. p. 84. Pursh 2. p. 499.

Among the Plants collected by Dr. Macbride on the Saluda mountains was one, which though destitute of its lower leaves, appeared in other respects to agree very well with the P. Crepidinea of Mich.

Stem 4—6 feet high, branching towards the summit. Upper *leaves* sessile, lanceolate, denticulate, scabrous and somewhat pubescent. *Flowers* in terminal clusters, nodding. *Involucrum* 8—10 leaved, nearly glabrous, surrounded at base, as usual in this genus, with small imbricate scales. *Florets* numerous, *Pappus* sessile, scabrous.
Grows in the mountains of Carolina.
Flowers September.

7. ALBA.

P. foliis radicalibus angulato-hastatis, dentatis, sublobatis, caulinis subrotundo-ovatis, dentatis, petiolatis	**Leaves of the root angled, hastate, toothed, and slightly lobed, of the stem ovate nearly round, toothed**

summis lanceolatis; panicula laxa, fasciculis terminalibus nutantibus, calycibus 8 fidis 8—10 floris.

and petiolate, the upper ones lanceolate; panicle loose; clusters terminal, nodding; involucrum 8-cleft, 9—10 flowered.

Sp. pl. 3. p. 1536. Walt. p. 193. Mich. 2. p. 83. Pursh 2. p. 499.

Root perennial, somewhat tuberous. *Stem* herbaceous, 2 feet high, much divided, slightly angled and pubescent. Lower *leaves* hastate, lobed and irregularly sinuate and dentate. *Lobes* obtuse or acute; the upper leaves spathulate, obovate, toothed and angled. *Flowers* in loose panicles composed of small terminal clusters. *Involucrum* cylindrical, 8 leaved; leaves oblong, pubescent, fringed at the summit. *Scales* at the base lanceolate, acute. *Florets* 8—12, ligulate, of a pale yellowish white colour. *Seeds* cylindrical, striate, crowned with a scabrous pappus.

Grows in dry soils.

Flowers September—October.

The root is excessively bitter, from whence the plant has derived the popular name of the Gall of the earth.

8. RUBICUNDA.

P. foliis ciliatis, radicalibus hastato-angulatis, subintegerrimis, inferioribus obovatis, basi attenuatis, subangulatis, summis lanceolatis, integerrimis; racemo simplici; floribus nutantibus.

Leaves ciliate, those of the root hastate, angled, nearly entire, the lower stem leaves obovate, tapering at base, slightly angled, the upper lanceolate, entire; racemes simple; flowers nodding.

Sp. pl. 3. p. 1537. Pursh 2. p. 499.

This species with which I am unacquainted, was considered by Linnæus as a variety of the P. Alba. Mr. Nuttall considers it as the same plant with the P. Virgata, and has excluded it from his list of species.

Grows in shady woods from Pennsylvania to Carolina.

Stem not above 18 inches high. Pursh.

Flowers August—October.

9. SERPENTARIA. Pursh.

P. foliis dentatis, asperis, radicalibus palmato sinuatis, caulinis longe petiolatis, sinuato pinnatifidis, subtrilobis, lacinia intermedia 3-partita, summis lanceolatis; racemis terminalibus, subpaniculatis, brevibus, nutantibus; involucris 8-fidis, 12-floris.

Leaves toothed, rough, those of the root palmate, of the stem on long petioles, sinuate, pinnatifid, somewhat 3-lobed, the middle segment 3 parted, upper leaves lanceolate; racemes terminal, paniculate, short, nodding; involucrum 8-cleft, 12-flowered.

Pursh 2. p. 499.

Plant 2—4 feet high, nearly glabrous. *Leaves* alternate, hastate, sinuate, angled and toothed, with a long attenuated base, resembling a winged petiole, lateral lobes so abruptly angled at their termination, as frequently to appear prœmorse. *Flowers* in loose terminal panicles; florets purple.

This plant bears so striking a resemblance to the P. Alba, as to render it doubtful whether it ought to be separated from it. It appears from the specimens I possess, to be a taller plant, to have its leaves much more distinctly hastate, its angles and lobes more acute.

Grows in the mountains in Pendleton county, S. Carolina.

Sent to me also from Salem, N. Carolina, by Dr. Schweinitz.

Flowers August—October.

10. APHYLLA. Nutt.

P. caule subsimplici; ramulis virgatis; foliis radicalibus linearibus, caulinis minimis, subulatis, sparsis; floribus solitariis; involucris 8-fidis, 10—12 floris.

Stem nearly simple; branches twiggy; leaves of the root linear, of the stem small, subulate, scattered; flowers solitary; involucrum 8-cleft, 10—12 flowered.

Nutt. 2. p. 123.

Root perennial? *Stem* about 2 feet high, glabrous, striate, sparingly branched towards the summit. Root leaves I have never seen. Stem leaves mere scales scattered along the stem. *Flowers* terminal, solitary. *Involucrum* very long, cylindrical. *Florets* purple.

The specimen of this plant which Dr. Baldwin sent me from St. Mary's under the name of Prenanthes Pumila, is too imperfect to enable me to speak of it with much confidence. It appears to me questionable, however, whether it belongs to this genus.

It grows in the pine barrens round St. Mary's, Georgia.

Flowers.

HIERACIUM. Gen. Pl. 1238.

Receptaculum nudiusculum. *Pappus* simplex, sessilis. *Involucrum* imbricatum, ovatum.	*Receptacle* naked. *Pappus* simple, sessile. *Involucrum* imbricate, ovate.

1. Venosum.

H. scapo nudo, paniculato, glabro; foliis obovato lanceolatis, supra rariter pilosis, subtus nudis, margine ciliatis denticulatisque, venis coloratis; involucris glabris.	Scape naked, paniculate, glabrous; leaves obovate lanceolate, a little hairy on the upper surface, naked underneath, the margins fringed and toothed, the veins coloured; involucrum glabrous.

Sp. pl. 3. p. 1570. Pursh 2. p. 502.

Root perennial. *Stem* herbaceous, 1—2 feet high, glabrous, branching towards the summit. *Leaves* all radical, lanceolate and obovate, with a long tapering base, beautifully variegated with dark red veins, very hairy along the midrib. *Flowers* in corymbose panicles. *Involucrum* ovate, interior leaves 8—10, equal, exterior much shorter, imbricate; florets ligulate, yellow. *Seed* oblong, striate, crowned with a sessile hairy pappus. *Receptacle* naked, flat, dotted.

Grows in rich oak lands in the upper districts of Carolina and Georgia.

Flowers April.

2. Marianum. Pluk.

H. caule erecto, villoso; foliis obovatis, strigosis, carina villosis, inferioribus subdentatis; pedunculis calycibusque tomentosis.

Stem erect, villous; leaves obovate, strigose, with the keel villous, the lower ones slightly toothed; peduncles and calyx tomentose.

Sp. pl. 3. p. 1572. Nutt. 2. p. 125.
H. scabrum. Mich. 2. p. 86. Pursh 2. p. 504.

Root perennial. *Stem* 2—4 feet high, very hairy and scabrous. *Leaves* sessile, attenuate, oval-lanceolate, the lower ones denticulate, very hispid, particularly towards the base, upper leaves small. *Flowers* in a compact terminal panicle. Interior leaves of the involucrum somewhat lanceolate, hairy, but less tomentose than the peduncle; florets numerous, yellow, scarcely longer than the involucrum.

Grows in the upper and mountainous districts of Carolina.

Flowers August—September. Pursh.

3. Gronovii.

H. caule folioso, paniculato; involucris hispidis; foliolis obovatis lanceolatisque, ciliatis, pubentissimis.

Stem leafy, paniculate; involucrum hispid; leaves obovate and lanceolate, fringed, very pubescent.

Sp. pl. 3. p. 1570. Walt. p. 193. Mich. 2. p. 87. Pursh 2. p. 503.

Root perennial, somewhat præmorse. *Stem* simple, erect, 2—3 feet high, nearly naked towards the summit, hairy and roughened with a glandular pubescence. *Leaves* few near the base of the stem, attenuate, sessile, sprinkled with long hairs, and at the same time covered with a short down, almost tomentose, the margins scarious and sometimes toothed. *Flowers* in a long, naked, terminal panicle. *Involucrum* cylindric, and with the peduncles covered with hairy and almost hispid glands, interior leaves about 12, linear, equal, exterior about the same number, imbricate; florets yellow. *Seeds* oblong, furrowed, crowned wtth a hairy pappus.

Grows in dry soils. Very common.

Flowers through the whole summer.

4. PANICULATUM.

H. glabriusculum; caule erecto, folioso, paniculato, inferne albo-lanato, pedicellis capillaribus; foliis lanceolatis, nudis, dentatis, membranaceis.

Nearly glabrous; stem erect, leafy, paniculate, woolly and hoary below, pedicels capillary; leaves lanceolate, naked, toothed, membranaceous.

Sp. pl. 3. p. 1572. Mich. 2. p. 86. Pursh 2. p. 503.

Root perennial. *Stem* 2—4 feet high, branching, nearly glabrous towards the summit. *Leaves* lanceolate, thin, glabrous, sessile, sparingly but very regularly denticulate. *Panicle* large, compound. *Flowers* on long slender peduncles. Interior leaves of the involucrum very narrow, glabrous; florets yellow. *Seed* deeply furrowed. *Receptacle* naked.

Grows in the mountains of Carolina.

Flowers July—September.

KRIGIA. GEN. PL. 1244.

Involucrum polyphyllum, simplex. *Receptaculum* nudum. *Pappus* duplex, exterior membranaceus, interior capillaceus.

Involucrum many leaved, simple. *Receptacle* naked. *Pappus* double, the exterior membranaceous, the interior hairy.

1. VIRGINICA.

K. pusilla, glauca; foliis primariis, subrotundis, integris, cæteris lyratis, subglabris; scapis unifloris, glabris, demum foliis longioribus; involucro glabro. Nutt. 2. p. 126.

Small, glaucous; the first leaves nearly round, entire, the rest lyrate, nearly glabrous; scapes one flowered, glabrous, finally longer than the leaves; involucrum glabrous.

Sp. pl. 3. p. 1618. Pursh 2. p. 504.
Hyoseris Virginica. Mich. 2. p. 88.

Plant often minute. *Flowers* bright orange colour. *Leaves* and *Bristles* of the pappus 5—8. Nutt.

Grows in dry sandy soils.

Flowers in the spring.

2. CAROLINIANA.

K. foliis runcinatis, subglabris; scapis prælongis, involucrique basi glanduloso-pilosis. Nutt.	Leaves runcinate, nearly glabrous; scapes very long, and with the base of the involucrum glandularly hairy.

Hyoseris Caroliniana. Walt. p. 194.

Root perennial, fibrous. Radical *Leaves* at first lanceolate, then pinnatifid and sometimes runcinate, the lateral lobes acute, the terminal one large, generally obtuse, all sometimes toothed, and sprinkled particularly on the upper surface, with jointed hair. *Scapes* numerous from each root, 6—12 inches high, a little hairy, particularly towards the base, one flowered. *Involucrum* 10—20 parted, segments equal, linear lanceolate, glabrous. *Corolla* ligulate, longer than the involucrum, bright orange coloured, a little hairy at base. *Seeds* inversely conic, striate, muricate, crowned with a double pappus, the exterior composed of 5 short, nearly round, membranaceous leaves, the interior of 5 scabrous bristles, as long as the involucrum, and alternating with the leaves of the exterior pappus. *Receptacle* naked, convex, dotted.

Around the plants of this genus there is still some obscurity. The plant which I have minutely described above, is the common species of our country and is generally considered as the K. Virginica. The references to Willd. and Mich. would perhaps be more correct here than under the preceding species. If, as suggested by Mr. Nuttall, this is the H. Caroliniana of Walter, I have no doubt that his H. Virginica is the K. Dandelion of Nuttall. At the same time, I am persuaded that the plant I have described is not the Southern species known to Mr. Le Conte and Dr. Baldwin, which I have seen, but of which I have no description.

Grows in sandy soils. Very common.

Flowers February—April.

3. DANDELION.

K. glabra, subglauca; foliis lineari lanceolatis, integris, lœvi-	Glabrous, slightly glaucous; leaves linear lanceolate, entire,

bus; scapis unifloris.	smooth; scape 1-flowered.

Tragopogon dandelion. Sp. pl. 3. p. 1495.
Troximon dandelion. Persoon 2. p. 360.
Hyoseris major. Walt. p. 194.
Hyoseris angustifolia. Mich. 2. p. 87. Pursh, 2. p. 404.

Root perennial, somewhat tuberous. Primary *Leaves* oblong, narrow, slightly obovate, the other leaves linear-lanceolate, 8—14 inches long, acute, generally entire, sometimes very slightly denticulate, somewhat glaucous. *Scape* a little longer than the leaves, bearing a few glandular hairs near the base of the involucrum. *Involucrum* 10—12 parted; florets yellow, nearly three times as long as the involucrum. *Scales* of the exterior pappus not distinguishable in my specimens, bristles of the interior numerous.

Grows in the lime-stone soils in St. John's, Berkeley. Dr. Macbride.
Flowers.

This appears from the description to have been the original Tragopogon Dandelion of Linnæus. Specimens sent to me from Salem, North-Carolina, as the K. Dandelion of Nuttall belong, I think, to a very different species.

4. Amplexicaulis.

K. glauca; foliis radicalibus spathulato-lanceolatis ovalibusque, dentatis; scapis parce foliosis ramosisque.	Glaucous; leaves of the root spathulate lanceolate and oval, toothed; scapes somewhat leafy and branched.

Nutt. 2. p. 127.
Hyoseris amplexicaulis. Mich. 2. p. 87.
Hyoseris biflora. Walt. p. 194.
Hyoseris prenanthoides. Willd. Sp. pl. 3. p. 1516.
Troximon virginicum. Pursh, 2. p. 505.

Root perennial. *Stem* 12—14 inches high, resembling a scape bearing a few sessile, semiamplexicaule, lanceolate or ovate leaves, and sparingly divided into long slender branches. Radical leaves all spathulate, generally lanceolate and irregularly toothed. *Flowers* solitary, on the extremities of the long branches. *Involucrum* about 12-parted, a little hairy at base. *Florets* yellow, twice as long as the involucrum. Exterior *pappus* 8-parted.

Grows in the middle and upper districts of Carolina.
Flowers.

APOGON. E.

Receptaculum nudum. *Pappus* 0. *Involucrum* octophyllum serie duplici.

Receptacle naked. *Pappus* 0. *Involucrum* 8-leaved in a double series.

1. Humilis. E.

Root annual? *Stem* 6—12 inches high, branching, glabrous. Root *leaves* oblong, narrow, slightly obovate, sessile. The stem *leaves* strap-shaped, acute, entire, sessile and slightly glaucous. *Flowers* terminal and somewhat umbellate, with two or more leaves sheathing the base of each umbel; perhaps 1 small leaf for each peduncle. *Peduncles* 3—8, 1—2 inches long, sometimes though rarely compound. *Involucrum* generally 8-leaved; leaves ovate, acuminate, glaucous, a little hairy and closely united at base but seeming to form two rows. *Florets* ligulate, few, (8—10) small, yellow, a little longer than the involucrum. *Receptacle* naked, flat. *Seeds* somewhat lanceolate, furrowed, transversely striate and without even the vestige of a pappus, as far at least, as the limited opportunities which I have had for examining it, have enabled me to ascertain.

Grows, though very rare, in the low and middle country of Carolina.

Found many years ago along the road between Jacksonborough and Ashepoo-Ferry. Sent to me recently from Augusta, Georgia, by Dr. Leavenworth.

Flowers April.

STOKESIA. L'Heritier.

Receptaculum nudum. *Pappus* 4-setosus. *Involucrum* foliaceum, subimbricatum. *Corolla* radiata; corollulis radii infundibuliformibus, irregularibus.

Receptacle naked. *Pappus* composed of 4 bristles. *Involucrum* leafy, somewhat imbricate. *Corolla* radiating; florets of the ray funnel shaped, irregular.

1. Cyanea.

Root perennial. *Stem* leafy. *Leaves* lanceolate. *Peduncles* axillary, 1-flowered. *Flowers* large, blue or purple, very handsome. Pursh.

With this plant I am entirely unacquainted.

Grows in Carolina.

Flowers.

CNICUS. Gen. Pl. 1255.

Involucrum imbricatum, ventricosum, squamis spinosis. *Pappus* plumosus. *Receptaculum* villosum.

Involucrum imbricate, ventricose, with spinous scales. *Pappus* feathered. *Receptacle* villous.

1. Altissimus.

C. foliis sessilibus, oblongo lanceolatis, scabris, subtus tomentosis, dentatis, ciliatis, radicalibus pinnatifidis; involucris bracteatis, ovatis; squamis ovato-lanceolatis, spinosis, appressis.

Leaves sessile, oblong lanceolate, scabrous, tomentose underneath, toothed, fringed, those of the root pinnatifid; involucrum ovate, bracteate; scales ovate lanceolate, spinous, appressed.

Sp. pl. 3. p. 1671. Pursh, 2. p. 506.

Root perennial. *Stem* erect, branching, sometimes on the borders of the Missouri, according to Mr. Nuttall, attaining the height of 15 or 18 feet. *Leaves* tomentose and hoary underneath, the upper one sessile, lanceolate, irregularly spiny. *Flowers* terminal. *Involucrum* somewhat cylindrical, the scales ovate, acuminate, appressed, pale, with the terminating spine discoloured and appearing as if riveted to the scale. *Corolla* generally purple. *Receptacle* villous.

Grows in the upper districts of Carolina. Pursh. Willd. I have not myself seen this species in Carolina, my specimens are from Pennsylvania.

Flowers July—September.

2. Muticus.

C. foliis omnibus pinnatifidis, subtus lanuginous, laciniis spinulosis, sublanceo-

Leaves all pinnatifid, lanuginous underneath, the segments spinulous, somewhat

latis, acutis; ramulis nudiusculis unifloris; involucris globosis; squamis muticis.

lanceolate, acute, branches naked, one flowered; involucrums globose; scales unarmed.

Pursh, 2. p. 499.
Cirsium muticum. Mich. 2. p. 89.

Stem tall, slender, branching. *Leaves* deeply sinuate, the segments sometimes 3-lobed; lobes acute and spiny, pale, hairy, and when young lanuginous underneath. *Flowers* in globose heads. Scales or leaves of the involucrum lanuginous, the lower ones armed with spines, the upper simple, acute. *Corolla* purple.

Grows in the mountains of Carolina and Georgia.

Flowers July—September.

3. REPANDUS. Mich.

C. foliis amplexicaulibus, angusto-oblongis, lævissime obtuseque sinuatis, spinulis crebris, lanuginosis; ramis unifloris, foliosis; involucri squamis lanceolatis, erectis, spinula aristatis.

Leaves amplexicaule, narrow, oblong, slightly and obtusely sinuate, with numerous small spines, lanuginous; branches one flowered, leafy; scales of the involucrum lanceolate, erect, armed with a spine.

Cirsium Repandum. Mich. 2. p. 89.

Stem erect, about 2 feet high, sometimes divided, but generally simple, and bearing one terminal flower, very lanuginous. *Leaves* oblong, narrow, slightly sinuate, repand, very closely fringed with spines, slightly discoloured and lanuginous underneath, 2—3 inches long and about half an inch wide, perhaps larger near the root. *Involucrum* somewhat cylindrical, scales ovate-lanceolate, very acute, terminating in a short spine, slightly lanuginous. *Corolla* tubular, much longer than the involucrum, deeply 5-cleft, bright purple. *Receptacle* bristly. *Seed* crowned with a beautifully feathered pappus.

Grows in dry pine barrens in the middle districts of Carolina and Georgia.

Flowers June—July.

4. Virginianus.

C. simpliciusculus; foliis sessilibus, lanceolatis, subtus cano-tomentosis, remote dentatis, dentibus spinosis; floribus solitariis; involucro globoso; squamis mucronatis.	Simple; leaves sessile, lanceolate, hoary and tomentose underneath, remotely toothed; teeth spinous; flowers solitary; involucrum globose; scales mucronate.

Pursh, 2. p. 506.
Carduus Virginianus. Walt. p. 195? Nutt. 2. p. 129.
Cirsium Virginianum. Mich. 2. p. 90.

Root perennial. *Stem* erect, 2—3 feet high, somewhat angled, covered with a white tomentum, particularly towards the summit, sometimes sparingly branched. *Leaves* narrow, lanceolate, acute, bearing spiny teeth, sometimes slightly sinuate and angled, green and a little hairy on the upper surface, hoary and tomentose underneath. *Flowers* solitary, terminal. *Involucrum* ventricose; scales oblong, ovate, acuminate, a little villous, terminated with a small reflected spine, glutinous along the midrib. *Corolla* nearly twice as long as the involucrum, deeply 5-cleft, purple. *Filaments* villous at base. *Seeds* oblong, slightly angled, crowned with a feathered pappus. *Receptacle* flat, bristly.

Grows in wet pine barrens in the middle districts of Carolina and Georgia.

Flowers June—September.

5. Glaber? Nutt.

C. foliis pinnatifidis, glabriusculis, segmentis 3—5 lobis, acutissime spinosis; involucro ventricoso, squamis pilosis, spinula sub reflexa mucronatis; caule ramosissimo. E.	Leaves pinnatifid, nearly glabrous, segments 3—5 lobed, acutely spinous; involucrum ventricose, scales hairy, mucronate with the point reflected; stem much divided.

Nutt. 2. p. 129.

Root perennial. *Stem* erect, 4—6 feet high, furrowed, unarmed, somewhat glabrous but sprinkled with a few lanuginous hairs, branching more than in any other species with which I am acquainted. *Leaves* sessile, 1—2 feet long, deeply pinnatifid, a little hairy along the veins and midrib, armed with very acute spines along the margins and angles. *Flowers* somewhat paniculate. *Peduncles* on small branches, nearly naked, slender and a little hairy. *Involucrum* campanulate, ventricose; scales lanceolate, closely appressed, a little hairy, viscid and armed with a short somewhat recurved spine. *Corolla* much longer than the involucrum, of a pale purple colour. *Seeds* oblong, glabrous, crowned with a beautifully feathered caducous pappus. *Receptacle* flat, bristly.

This species of Cnicus, by far the most common in the low country of Carolina and Georgia, appears to have been overlooked by both Walter and Michaux, at least the C. Glaber of Mr. Nuttall is the only species whose description accords with the character of our plant. I once considered it as the C. Repandum, of Michaux, but the plant I have described under that name agrees more accurately with his observations.

Grows in cultivated lands, very common about buildings.
Flowers May—August.

6. Discolor. Muhl.

C. foliis sessilibus, pinnatifidis, supra parce pilosis, subtus canescenti-tomentosis, laciniis bilobis spinosis; involucris globosis, squamis ovatis, spinosis; caule ramoso.

Leaves sessile, pinnatifid, a little hairy on the upper surface, hoary and tomentose underneath; segments two lobed, spinous; involucrum globose, scales ovate, spinous; stem branching.

Sp. pl. 3. p. 1670. Nutt. 2. p. 130.

Stem erect, 3—6 feet high, in my specimens very hairy, and covered with cobweb-like tomentum. *Leaves* long, deeply pinnatifid, the segments very generally 2-lobed, the lobes ovate and spiny, woolly underneath, the margin very irregularly armed with spines. *Flowers* solitary, terminating the branches, which are generally leafy, up to the base of the involucrum; scales of the involucrum ovate, acute, crowned with a long spine. *Corolla* bright purple. *Seeds* smooth, crowned, with a feathered pappus.

Grows in the upper districts of Carolina.
Flowers June—July.

7. Horridulus.

C. foliis sessilibus, pinnatifidis, acute incisis, spinosissimis subtus lanuginosis; floribus confertis, bracteatis; bracteis geminatim spinosissimis; involucris inermibus.

Leaves sessile, pinnatifid, acutely notched, very spinous, lanuginous underneath; flowers crowded, bracteate; bracteas very spinous, the spines generally in pairs; involucrum unarmed.

Pursh, 2. p. 507. Nutt. 2. p. 130.
Cirsium horridulum. Mich. 2. p. 90.
Carduus spinosissimus. Walt. p. 194.

Root perennial, fusiform. *Stem* erect, simple, 2—3 feet high, lanuginous. *Leaves* sessile, crowded near the base of the stem, pinnatifid, segments lobed, and toothed, and acutely spinous, hairy on the upper surface, lanuginous underneath. *Flowers* sometimes terminal, solitary, generally axillary, on very short peduncles, crowded near the summit of the stem. *Bracteas* 20—30 around the base of each flower, scarcely longer than the involucrum; the interior appear pectinately spinous, on the exterior the spines are distinctly arranged in pairs. *Involucrum* ventricose, scales numerous, lanceolate, very acute, but scarcely spiny, a little hairy. *Corolla* pale purple. *Seeds* oblong, shining, crowned with a feathered pappus.

Grows in dry poor soils. Very generally diffused over our country.

Flowers March—April.

LIATRIS. Gen. Pl. 1263.

Involucrum oblongum, imbricatum. Receptaculum nudum. Pappus plumosus, sæpius coloratus. Semina pubescentia, obconica.

Involucrum oblong, imbricate. Receptacle naked. Pappus feathered, generally coloured. Seeds pubescent, inversely conic.

** Floribus spicatis vel racemosis, radicibus tuberosis.*

** Flowers in spikes or racemes; root tuberous.*

1. Spicata. **Willd.**

L. foliis linearibus integerrimis, glabris, basi ciliatis, nervosis et punctatis; capitulis spicatis; squamis involucri linearibus, obtusis.

Leaves linear, entire, glabrous, ciliate at base, nerved and dotted; flowers in spikes; scales of the involucrum linear, obtuse.

Sp. pl. 3. p. 1636.
Muhl. Cat.? p. 70
Serratula Spicata. Lin. Gron.

Root tuberous, perennial. *Stem* two to four feet high, simple, glabrous. *Leaves* linear lanceolate, very narrow, acute, dotted, somewhat rigid, sparingly fringed at base. *Flowers* in a terminal spike, somewhat scattered, much longer than the bracteal leaves. *Involucrum* cylindrical, about 8-flowered, scales oblong, somewhat obtuse. *Corolla* bright purple, longer than the involucrum, and with the long style sprinkled with glandular dots. *Seeds* furrowed, very hairy, crowned with the feathered pappus.

Var. Macrostachya. Mich.

Mich. 2. p. 91. Pursh, 2. p. 507.

Stem 3 to 5 feet high. Leaves longer and narrower in proportion to their length than in the preceding variety, and more conspicuously fringed, flowers in a long terminal spike, on pedicels 1 to 2 lines long. To this species the figure of Dillenius Hort. Elth. t. 72. f. 83. appears to belong.

Grows in flat pine barrens.

Flowers, August—October.

2. Pycnostachya.

L. caule simplici, hirsuto; foliis strictis, angusto-linearibus, pubescentibus; spica longa, floribus confertim sessilibus; involucris

Stem simple, hairy; leaves straight, narrow linear, pubescent; spike long, flowers clustered, sessile; involucrum appressed, squar-

appressis, superne squarrosis.

rose at the summit.

Mich. 2. p. 91. Pursh, 2. p. 507.
Pluck. alm. t. 423. f. 6.?

Plant two to four feet high. *Flowers* small. This plant, which I have not seen in the low country, is said by Pursh to grow in our mountain meadows.

Flowers in September.

3. GRAMINIFOLIA. Walt.

L. caule simplici, glabro; foliis linearibus, longissimis, glabris, nervosis, margine scabriusculis, costa media interne subpilosis; capitulis spicatis, remotiusculis, subsessilibus; involucri squamis oblongis, obtusis, mucronatis, ciliatis, appressis, interioribus coloratis.

Stem simple, glabrous; leaves linear, very long, glabrous, nerved, with the margins somewhat scabrous, the midrib hairy on the upper surface; flowers in spikes, rather distant, nearly sessile; scales of the involucrum oblong, obtuse, mucronate, ciliate, appressed, the interior coloured.

Pursh, 2. p. 508. Nutt, 2. p. 131.
Anon. Graminifolia. Walt. p. 197.
Pluk. alm. t. 424. f. 6. ?

Stem two to four feet high, simple, a little hairy. *Leaves* very narrow, sometimes linear, sprinkled with hair all over their inner surface. *Flowers* in a terminal spike, not crowded. *Bracteal leaves* as long as the involucrum, sometimes longer. *Involucrum* cylindrical, containing about six flowers, scales oblong, obtuse, mucronate, pubescent along the margin. *Corolla* purple, sprinkled, together with the style, with glandular dots. *Seeds* furrowed, very hairy. *Pappus* feathered, not coloured.

Grows in wet pine barrens.

Flowers in September.

4. TENUIFOLIA. Nutt.

L. caule gracili, glabro; foliis inferioribus confertis, linearibus, basi parce pilosis, superioribus setaceis; racemo longissimo; pedicellis squamosis; involucri squamis oblongis, mucronatis.	Stem slender, glabrous; lower leaves crowded, linear, a little hairy at base, the upper setaceous; raceme very long; pedicels leafy; scales of the involucrum oblong, mucronate.

Nutt. 2. p. 131.
L. Graminifolia. Willd. 3. p. 1636.?

Root tuberous. *Stem* two to four feet high, simple, glabrous; lower leaves very narrow or linear; glabrous, though a little hairy near the base, crowded, and frequently, as has been remarked by Mr. Nuttall, resembling tufts of the leaves of the Pinus palustris, upper leaves very small, setaceous, scattered. *Flowers* crowded in a terminal raceme. *Peduncle* four to six lines long, furnished with two or three small scales. *Involucrum* oblong, containing about five flowers. Scales oval, membranaceous along the margin. *Corolla* bright purple, sprinkled with glandular dots. *Seeds* furrowed, very hairy. *Pappus* feathered, not coloured.

I have specimens from the western districts of Georgia, in which the lower scales of the involucrum are lanceolate, acute; the interior all emarginate and sometimes lacerate; in all other respects agreeing exactly with this species. I have always been accustomed to consider this plant as the L. Graminifolia, of Willdenow and Muhlenburg, though not of Walter and Pursh.

Grows in dry pine barrens.
Flowers, August—October.

5. CYLINDRACEA. Mich.

L. gracilis, tota hirsutula; foliis linearibus; spica rariflora; involucris subsessilibus, cylindraceis, paucifloris; squamis apice rotundatis, abrupte mucronatis.	Slender, somewhat hairy; leaves linear; spike few flowered; involucrum nearly sessile, cylindrical, few flowered; the scales round at the summit, abruptly mucronate.

Mich. 2. p. 93. Pursh, 2. p. 508.

On the somewhat questionable authority of Pursh, (I mean questionable as regards the habitat of his species,) I have introduced this plant, which he mentions as having been collected in Carolina by Mr. Fraser. Michaux discovered it in the prairies of the Illinois. The plant which under this name I shall describe, I received from my friend Dr. Torrey, of New-York. It was collected near the shores of Lake Michigan, and although by a many flowered involucrum, and the want of pubescence, it varies from the description of Michaux, it yet resembles his plant in too many respects to be hastily separated from it.

Root tuberous. *Stem* one to two feet high, slender, glabrous. *Leaves* linear and linear lanceolate, long, narrow, glabrous; the upper leaves pubescent along the margin, the lower ones attenuated very much at base. *Flowers* few, (five to eight) in a terminal spike. *Involucrum* long, cylindrical, containing fourteen to twenty florets. Scales oblong, rounded at the summit, and abruptly acuminate, pubescent along the margin. *Corolla* bright purple, sprinkled with glandular dots. *Pappus* conspicuously feathered.

Grows in woods and meadows—Pursh.

Flowers, August—September.

6. Aspera.

L. caule subramoso, scabro-pubescente; foliis lineari-lanceolatis, asperrimis; capitulis brevibus, spicatis, distincte alternis, solitariis, sessilibus; involucri squamis rotundato-obtusis, conniventibus.

Stem somewhat branching, scabrous, pubescent; leaves linear lanceolate, very rough; heads short, spiked, distinctly alternate, solitary, sessile; scales of the involucrum obtuse, nearly round, connivent.

Mich. p. 92. Pursh, 2. p. 508.

This species, which was discovered by Michaux in the prairies of Illinois, is mentioned by Pursh as growing also in Carolina. I have not seen it in this country, and the Anon. Ramos. of Walter, which Pursh has quoted as a synonyme, and which perhaps formed his authority for placing it among our plants, belongs, I think, to a very different species.

Flowers, August—October. Pursh.

7. HETEROPHYLLA.

L. caule simplici, glabro; foliis lanceolatis, glabris, lævibus; superioribus lineari-lanceolatis, multoties minoribus; involucris spicatis, brevissime pedunculatis, subsquarrosis; squamis lanceolatis, acutis, nudis.

Stem simple, glabrous; leaves lanceolate, glabrous, smooth, the upper linear lanceolate, much smaller; heads spiked, on short peduncles, somewhat squarrose; scales of the involucrum lanceolate, acute, naked.

Willd. enum. 503.

Flowers the size of the L. Graminifolia.
Grows in South-Carolina and Georgia.
Flowers, August—October.

8. PILOSA.

L. caule simplici pubescente; foliis linearibus, pilosis, ciliatis; capitulis racemosis, laxiusculis; squamis oblongis, obtusis; pedicellis bracteolatis.

Stem simple, pubescent; leaves linear, hairy, fringed; heads racemose, loose; scales of the involucrum oblong, obtuse; pedicels bracteate.

Sp. pl. 3. p. 1636. Pursh, 2. p. 508. Nutt. 2. p. 131.
A low species, flowers the size of L. Pycnostachya. Pursh.

Var. dubia. Barton?

Stem two to three feet high, streaked, not slender, a little hairy. *Leaves* long, linear, the lower linear lanceolate, dotted, acute, hairy and fringed near the base, nearly glabrous towards the summit. *Racemes* long, leafy; peduncles one-half to one inch long, the lower ones long, compound, furnished with small scales. *Involucrum* oblong, containing ten to fourteen flowers; scales rather obtuse, fringed, appressed. *Corolla* bright purple, scarcely longer than the involucrum. *Seeds* hairy. *Pappus* feathered, not coloured.

This variety is certainly not sufficiently hairy to have merited the trivial name which belongs to this species; perhaps it is really distinct.

Grows in pine barrens—Georgia to New-Jersey.
Flowers, August—October.

9. GRACILIS?

L. caule gracili, piloso; foliis linearibus, glabris, basi ciliatis; capitulis racemosis, sub 7-floris; involucri squamis obovatis, ciliatis, appressis. E.

Stem slender, hairy; leaves linear, glabrous, fringed at base; heads in racemes, about 7-flowered; scales of the involucrum obovate, fringed, appressed.

Pursh, 2. p. 508.

I know not whether the plant I am describing is the real L. Gracilis of Pursh. It agrees with his description in many respects, and it certainly is very different from the preceding species.

Root tuberous, perennial. *Stem* two to three feet high, very slender, streaked, pubescent. *Leaves* linear, narrower than those of any other species excepting L. Tenuifolia, glabrous, slightly fringed at base, expanding, the lower about six inches long, the upper scarcely an inch. *Raceme* terminal. *Peduncles* nearly an inch long, hairy, furnished with a few small scales. *Involucrum* containing about seven flowers; scales obovate, obtuse, dotted, coloured at the summit, scarious and fringed along the margin. *Corolla* bright purple, much longer than the involucrum. *Seeds* furrowed, hairy, crowned with a coloured, feathered pappus.

Grows in dry pine barrens.

Flowers September.

10. SECUNDA. E.

L. caule reclinato, pubescente; foliis linearibus, glabris, basi parce ciliatis; racemis secundis; involucri squamis lanceolatis, acutis, appressis.

Stem reclining, pubescent; leaves linear, glabrous, sparingly fringed at base; racemes secund; scales of the involucrum lanceolate, acute, appressed.

Root tuberous, perennial. *Stems* two to three feet high, pubescent, declining, generally curved. *Leaves* linear; the lower ones linear lanceolate, with a long attenuated base, dotted as in all of the species of this division. *Flowers* in a long terminal raceme, which, from the peculiar habit of the stems, is always turned to one side. *Peduncles* from half an inch to an inch long, furnished with one or two subulate leaves. *Involucrum* about

10-leaved, containing four to five flowers. *Leaves* oblong lanceolate, acute, sometimes slightly acuminate, glabrous, pubescent along the margin. *Corolla* pale purple. *Seeds* furrowed, hairy. *Pappus* slightly feathered.

In the scales of the involucrum this plant bears a striking resemblance to the L. Heterophylla; in other respects it appears sufficiently to differ.

Grows on the summits of the dry sand hills in the middle country; common near Columbia.

Flowers, August—September.

11. RESINOSA. Nutt.

L. glabra; foliis linearibus, confertis; capitulis spicatis, oblongis, 4—5 floris; involucri squamis obtusis, appressis, resinosis, demum canescentibus.	Glabrous; leaves linear, crowded; heads spiked, oblong, 4—5 flowered; scales of the involucrum obtuse, appressed, resinous, finally hoary.

Nutt. 2. p. 131.

Stem about two feet high, very smooth. Radical leaves long, stem leaves numerous. Spike 6 to 12 inches long. *Flowers* bracteate, closely sessile. Scales of the involucrum resiniferous, at length appearing whitish. *Corolla* purple, internally smooth. *Seed* large, villous. Nutt.

Grows in the pine forests of North and South-Carolina.

Flowers.

12. ELEGANS.

L. caule simplici, villoso; foliis lineari-lanceolatis, subtus scabriusculis; racemo cylindracio, confertiflore; involucri squamis intimis ligulatis, coloratis.	Stem simple, villous; leaves linear-lanceolate, slightly scabrous underneath; raceme cylindrical, flowers crowded; interior scales of the involucrum ligulate, coloured.

Sp. pl. 3. 1635. Mich. 2. p. 11. Pursh, 2. p. 509. Nutt. 2. p. 132.
Stæhelina Elegans. Walter, 202.

Root tuberous, perennial. *Stem* erect, three to five feet high, pubescent, almost tomentose. *Leaves* linear lanceolate, sometimes falcate, cartilaginous along the margins, dotted, the lower obscurely five-nerved. *Flowers* axillary, crowded, forming a long compact cylindrical raceme. *Peduncle* from two lines to an inch long, clothed with small leaves. *Involucrum* about 12-leaved, bearing five flowers, *leaves* imbricate, lanceolate, ovate, dotted, villous; the five interior very long, coloured. *Corolla* shorter than the involucrum. *Style* deeply two cleft. *Seeds* oblong, furrowed, very villous, crowned with a coloured, feathered pappus. *Receptacle* flat, dotted, sometimes a little hairy.

Grows in dry soils.

Flowers, August—September.

13. Scariosa.

L. caule erecto, piloso; foliis lanceolatis, pubescentibus, margine scabris; capitulis racemosis, 14-floris; involucri squamis obovatis, subglabris, margine scariosis, inferioribus patentibus. E.

Stem erect, hairy; leaves lanceolate, pubescent, scabrous along the margin; heads racemose, 14-flowered; scales of the involucrum obovate, nearly glabrous, with the margin scarious, the lower ones expanding.

Sp. pl. 3. p. 1635. Pursh, 2. p. 509. Nutt. 2. p. 132.
L. Squarrulosa. Mich. 2. p. 92.
Anon. Ramos. Walt. p. 198.

Root tuberous, perennial. *Leaves* somewhat crowded, lanceolate, pubescent, particularly on the under surface, scarious along the margin, the lower nearly a foot long, including the long attenuated base, two inches wide, the upper two to three inches long. *Flowers* in a terminal raceme. *Peduncles* one to four lines long, pubescent. *Involucrum* somewhat squarrose at base, scales dilated and slightly coloured at the summit. *Corolla* glabrous, bright purple. *Style* nearly twice as long as the corolla. *Seeds* furrowed, hairy. *Pappus* feathered, pale purple. *Receptacle* naked, slightly convex, handsomely dotted.

This species is very much disposed to throw out branches whenever the slightest injury is sustained by the stem. When the stem is broken, it will frequently shoot out four or five long branches, and then from the size and brilliant colour of the flowers, it becomes the most ornamental species of the genus. In this state it is probably the Anon. Ramos. of Walter.

Of this plant there are many varieties or kindred species not yet discriminated. In my Herbarium are the following:

a. Lanceolata, the var. described above. Anon. Ramos. Walt. L. Squarrulosa. Mich.

b. Intermedia. Stem leaves longer than in the preceding var. pubescent. *Involucrum* containing twenty-four to thirty flowers. *Scales* obovate, conspicuously fringed. Grows on Long Island. Dr. Torrey. An intermediate species between this and L. Spheroidea—perhaps belonging to the latter.

c. Diversifolia. Lower leaves large, glabrous. Stem leaves much smaller than in the two preceding varieties, slightly pubescent. *Stem* almost tomentose. *Involucrum* containing about twenty flowers. *Scales* obovate, pubescent along the margins.

d. Foliosa. *Leaves* of the stem long, linear lanceolate, nearly glabrous. Raceme long; through the greater part of its length the leaves at the base of each peduncle are longer than the peduncles and flowers. *Involucrum* about fourteen flowered. *Scales* obovate, glabrous.

e. Confertiflora. *Leaves* lanceolate, the lower glabrous, very acute, the upper small, a little hairy; all somewhat crowded. *Flowers* in a compact spike. *Involucrum* containing fourteen to twenty flowers. *Scales* obovate, nearly glabrous. Grows along the western frontier of Georgia.

Grows in dry soils.

Flowers, August—October.

14. Spheroidea. Mich.

L. foliis lævibus; inferioribus lato lanceolatis; superioribus lanceolato linearibus; racemo floribus majusculis, solitariis, alternis; involucris subglobosis; squamis ovalibus, erectis.

Leaves smooth, the lower broad, lanceolate, the upper narrow; flower of the raceme large, solitary, alternate; involucrum nearly globular, the scales oval, erect.

Mich. 2. p. 92. Pursh, 2. p. 509.

Root tuberous, perennial. *Stem* two to four feet high, a little pubescent. *Leaves* lanceolate, acute, dotted, glabrous, somewhat coriaceous. The lower ones large, attenuated into a petiole at base. four to five inches long. *Flowers* large, in a simple terminal raceme. *Involucrum* spheroidal, containing many florets; scales oval or obovate, very obtuse, coloured, slightly fringed, sometimes fimbriate, and sprinkled with glandular dots. *Florets* bright purple, longer than the involucrum. *Seeds* very hairy, crowned with a pappus not conspicuously feathered.

Grows in the upper districts of Carolina. Edgefield, Mr. Oemler.

Flowers, August—October.

15. SQUARROSA.

L. caule simplici pubescente; foliis longissime linearibus, nervosis, margine scabriusculis; racemis paucifloris, foliosis; involucri squamis superne foliaceis, lanceolatis, rigidis, patentibus.

Stem simple, pubescent; leaves very long, linear, nerved, with the margins scabrous; racemes few flowered, leafy; upper scales of the involucrum leafy, lanceolate, rigid, expanding.

Sp. pl. 3. p. 1634. Mich. 2. p. 92. Pursh, 2. p. 509. Nutt. 2. p. 132.

Root tuberous, perennial. *Stem* two to three feet high, pubescent, a little scabrous, leafy. *Leaves* linear, long; the lower ones sometimes exceeding a foot in length, glabrous, scarious along the margin; the upper ones sometimes ciliate. The nerves somewhat pellucid. *Flowers* generally four to five, in a terminal raceme. *Involucrum* cylindrical; scales ovate, lanceolate, ciliate, acuminate, with the points all expanding. *Florets* bright purple, deeply cleft, the segments hairy on the inner surface. *Seeds* oblong, striate, hairy, crowned with a coloured pappus, conspicuously feathered.

Grows in dry pine barrens.

Flowers, September—October.

*** Floribus corymbosis, radicibus fibrosis.*

*** Flowers in corymbs; roots fibrous.*

16. PAUCIFLORA. Pursh.

L. caule simplici glabro; foliis linearibus, panicula virgata, foliosa, ramis brevibus paucifloris; involucris subsessilibus secundis 3—5 floris; squamis erectis, lanceolatis, acutis, glabris.

Stem simple, glabrous; leaves linear, panicle virgate, leafy, with the branches short, few flowered, involucrum sessile, secund, 3—5 flowered; the scales erect, lanceolate, acute, glabrous.

Pursh, 2. p. 510.

A small species described by Pursh, from specimens collected in Georgia by Bartram, and now in the herbarium of the late Sir Joseph Banks.

17. Paniculata. Walt.

L. caule simplici, piloso-viscoso; foliis lanceolatis, nervosis, glabriusculis; panicula coarctata; involucris sub 5-floris, squamis lanceolatis.	Stem simple, hairy, viscid; leaves lanceolate, nerved, nearly glabrous; panicle contracted; involucrum generally 5-flowered, scales lanceolate.

Willd. Sp. pl. 3. p. 1637. Mich. 2. p. 93. Pursh, 2. p. 510. Nutt. 2. p. 132.

Anon. Paniculat. Walt. p. 198.

Root perennial, somewhat tuberous. *Stem* erect, one to two feet high, coloured and branching towards the summit, with the branches and involucrum viscid and very hairy. *Leaves* of the root spathulate, lanceolate, very finely denticulate, glabrous; leaves of the stem small, sessile, sometimes ovate-lanceolate, hairy. *Flowers* in a long terminal panicle, in clusters from four to six, on the small branches. *Involucrum* six to eight leaved, four to five flowered; *scales* appressed, imbricate. *Corolla* much longer than the involucrum, viscid, purple. *Seeds* furrowed, hairy, crowned with a pale purple feathered pappus. *Receptacle*, naked, flat, dotted. The *involucrum* is sometimes found with eight to ten leaves, containing eight to ten flowers, as if formed by the union, or soldering of two distinct heads of flowers. (Cephalanthia—Rich.)

Grows in flat pine barrens, very common.

Flowers, September—October.

18. Odoratissima. Walt.

L. glaberrima; caule simplici; foliis ovatis lanceolatisque, nervosis, denticulatis, sub glaucis; panicula corymbosa; involucris 7	Very glabrous; stem simple; leaves ovate and lanceolate, nerved, toothed, slightly glaucous; panicle corymbose; involu-

—8 floris, squamis obovatis, obtusis.

crum 7—8 flowered, the scales obovate, obtuse.

Sp. pl. 3. p. 1637. Mich. 2. p. 93. Pursh, 2. p. 510. Nutt. 2. p. 132.
Anon. Odoratiss. Walt. p. 198.

Root perennial, thick or tuberous. *Stem* erect, three to four feet high, striate, purple. *Leaves* of the root spathulate, lanceolate or ovate, obtusely toothed, nerved; of the stem amplexicaule, generally five nerved, all a little glaucous, and when bruised, highly aromatic. *Flowers* in a large expanding corymbose panicle. *Involucrum* ten to twelve leaved, generally seven flowered, appressed, glabrous, coloured. *Corolla* a little longer than the involucrum, bright purple. *Seeds* furrowed, a little hairy, crowned with the coloured slightly feathered pappus.

Grows in flat pine barrens, in some situations very abundant; when trampled under the hoofs of horses, it perfumes the air with its peculiar fragrance.

Flowers, September—October.

19. TOMENTOSA? Mich.

L. caule simplici, foliisque cuneato-lanceolatis hirsutis; corymbo paucifloro, depresso, divaricato, ramis multifloris (4—8); involucris glabris, squamis ovalibus, obtusis.

Stem simple, and with the cuneate lanceolate leaves hairy; corymb few flowered, depressed, divaricate, the branches many flowered (4—8); involucrum glabrous, the scales oval, obtuse.

Mich. 2. p. 93. Pursh, 2. p. 510.
L. Corymbosa. Nuttall, 2. p. 132.

Root perennial. *Stem* about two feet high, branching near the summit, with the branches and base of the leaves hirsute, and somewhat tomentose. Root *leaves* cuneate, lanceolate; stem *leaves* oblong, sessile; the lower ones narrowed at base. *Flowers* in terminal corymbs. *Branches* many flowered. *Involucrum* containing about twenty florets; *scales* oval, membranaceous along the margin, a little hairy at base. *Corolla* pale purple. *Seeds* inversely conic, crowned with the feathered slightly coloured pappus.

This plant differs in some respects, particularly in its many flowered branches, and in the smooth and obtuse scales of its involucrum, from the

L. Tomentosa of Michaux. It agrees, however, in so many other respects, that I think it may be adopted as that species, at least, until a better claimant for the name shall be discovered.

Grows in damp soils along the margins of swamps in Georgia.

Flowers, September—October.

20. WALTERI. E.

L. caule simplici, superne piloso; foliis lanceolatis, acutis, glabris, punctatis, basi-attenuatis; floribus corymbosis, involucris multifloris, squamis acutis, tomentosis. E.

Stem simple, hairy near the summit; leaves lanceolate, acute, glabrous, dotted, attenuate at base; flowers in corymbs, involucrum many flowered, the scales acute, tomentose.

Anon. Uniflor. Walter, p. 198.

Root perennial. *Stem* about two feet high, nearly glabrous at base, very hairy towards the summit. Root leaves narrow, lanceolate, glabrous, with the attenuated base three to five inches long; *stem leaves* diminishing in size, the upper ones very small, ovate, sessile and hairy. *Corymb* few flowered. *Branches*, one to five flowered. *Scales* of the involucrum ovate, acute, coloured, tomentose. *Corolla* deep purple. *Seeds* furrowed, a little hairy, crowned with the coloured slightly feathered pappus.

This plant appears to form an intermediate species between L. Bellidifolia and Tomentosa.

Grows in St. John's, Berkeley.

Flowers, September—October.

VERNONIA. GEN. PL. 1262.

Receptaculum nudum. *Pappus* duplex: exterior paleaceus, brevis; interior capillaris. *Involucrum* ovatum, imbricatum.

Receptacle naked. *Pappus* double, the exterior chaffy, short, the interior capillary. *Involucrum* ovate, imbricate.

1. OLIGOPHYLLA. Mich.

V. caule simplici, superne ramoso; foliis radicalibus ovalibus, caulinis lanceolatis, omnibus dentatis; corymbo paniculato; involucri squamis lanceolatis, acuminatis.

Stem simple, branching towards the summit; root leaves oval, stem leaves lanceolate, all toothed; corymb paniculate; scales of the involucrum lanceolate, acuminate.

Mich. 2. p. 94. Pursh, 2. p. 511. Nutt. 2. p. 134.
Chrysocoma Acaulis. Walt. p. 196.

Root perennial, stoloniferous. *Stem* about two feet high, furrowed, a little pubescent and scabrous. *Root leaves* large, oval, acute, coarsely but acutely toothed; stem leaves a little crowded at the base of the stem, scattered towards the summit, finely toothed, sometimes serrate; all scabrous on the upper surface, pubescent underneath, particularly along the veins. *Petioles* of the radical leaves about two inches long; of the stem leaves only an attenuated base. *Flowers* scattered in an irregular panicled corymb. *Involucrum* imbricate; scales ovate-lanceolate, pubescent, fringed, acuminate, the lower ones filiform at their summits. *Corolla* purple, deeply five-cleft, much longer than the involucrum. *Seeds* oblong, striate, hairy, crowned with a double pappus; the exterior composed of many short scales; the interior hairy, somewhat scabrous.

Grows in damp pine barrens, and along the margins of swamps.

Flowers June—July.

2. SCABERRIMA? Nutt.

V. caule simplici; foliis lineari lanceolatis, denticulatis, scabris, pilosis; corymbo subumbellato; involucri squamis longe mucronatis.

Stem simple; leaves linear lanceolate, denticulate, scabrous, hairy; corymb somewhat umbelliform; scales of the involucrum conspicuously mucronate.

Nutt. 2. p. 134.

Root perennial. *Stem* about two feet high, slender, very hairy near the base, smooth and nearly naked towards the summit. *Leaves* somewhat crowded on the lower part of the stem, sessile, two to three inches long, hairy and scabrous on both surfaces, with the margins revolute and sparingly denticulate. *Flowers* in a small, terminal, umbellate corymb, with a few scattered branches below the umbel. *Scales* of the involucrum ovate, lanceolate, fringed, terminating in a long, subulate, somewhat rigid point. *Corolla* bright purple. *Seeds* furrowed, hairy, crowned with a double pappus; the exterior composed of short, subulate scales; the interior long, hairy, slightly scabrous. *Receptacle* naked, dotted.

Grows in dry pine barrens.

Flowers June—August.

3. Angustifolia.

V. caule simplici; foliis crebris, longe angusteque linearibus, subintegris; corymbo subumbellato; involucri squamis rigide mucronatis.	Stem simple; leaves numerous, long, linear, nearly entire; corymb somewhat umbelliform; scales of the involucrum rigid, mucronate.

Mich. 2. p. 94. Pursh, 2. p. 511.
Chrysocoma Graminifolia? Walt. p. 196.

Root perennial. *Stem* about three feet high, simple and somewhat scabrous. *Leaves* linear and linear lanceolate, sparingly denticulate, with the margins revolute, somewhat lucid, paler and a little hairy underneath, very scabrous, numerous but not crowded, expanding. *Flowers* in a large terminal corymb. *Scales* of the involucrum ovate-lanceolate, tapering to a long, subulate, expanding, somewhat rigid point. *Florets* numerous. *Corolla* bright purple. *Seed* furrowed, hairy; interior pappus hairy, scabrous.

Grows in very dry soils. On the high sand hills in the middle country. Common near Columbia.

Flowers June—August.

4. Noveboracensis.

V. altissima; foliis crebris, lanceolatis, serrulatis, scabris; corymbo fastigiato; involucri squamis apice filiformibus.	Very tall; leaves numerous, lanceolate, serrulate, scabrous; corymb fastigiate; scales of the involucrum filiform at the summit.

Willd. Sp. pl. 3. p. 1632. Mich. 2. p. 95. Pursh, 2. p. 511. Nutt. 2. p. 134.

Root perennial. *Stem* five to six feet high, pubescent and branching towards the summit. *Leaves* numerous, long, narrow, lanceolate, a little scabrous, nearly glabrous on the upper surface, finely pubescent, particularly along the veins, on the under. *Flowers* in a very large terminal corymb. *Involucrum* loosely hemispherical; scales ovate-lanceolate, terminating in a long, subulate point. *Florets* numerous. *Corolla* purple. *Seed* furrowed, a little hairy. *Scales* of the exterior pappus subulate, interior pappus long, hairy

Grows in ditches and wet lands.

Flowers July—September.

5. Tomentosa. E.

V. caule gracili, superne tomentoso; foliis longe angusteque lanceolatis, acutissime serratis, supra scabriusculis, subtus tomentosis, canescentibus; corymbo fastigiato; involucri squamis apice filiformibus.

Stem slender, tomentose towards the summit; leaves long, narrow, lanceolate, very acutely serrate, slightly scabrous on the upper surface, tomentose and hoary underneath; corymb fastigiate; scales of the involucrum filiform at the summit.

Chrysocoma Tomentosa ? Walt. p. 196.

Stem three to five feet high, rather slender for its height, finely tomentose, the summit and branches of the corymb hoary. *Leaves* five to seven inches long, scarcely one wide; densely tomentose underneath. *Flowers* in a terminal corymb. *Scales* of the involucrum ovate lanceolate, hairy, terminating in a very long filiform point. *Corolla* purple.

This plant, of which however, my specimens are imperfect, containing only immature flowers, appears to differ from any of our described species, unless it be the C. Tomentosa of Walt. The filiform points of the involucrum are twice as long as those of any other species that I have seen.

Grows in wet soils, ditches. St. Thomas and St. Dennis, near Charleston, Mr. Caradeux.

Flowers July—August.

6. PRÆALTA.

V. caule altissimo, anguloso, dense-pubescente; foliis crebris, lanceolatis, acute serratis, subtus pubescentibus; corymbo fastigiato; involucri squamis ovatis, acutis, muticis.

Stem very tall, angled, densely pubescent; leaves numerous, lanceolate, acutely serrate, pubescent underneath; corymb fastigiate; scales of the involucrum ovate, acute, unarmed.

Sp. pl. 3. p. 1633. Mich. 2. p. 95. Pursh, 2. p. 511.

With this species I am unacquainted.
Grows from New-England to Carolina. Pursh.
Flowers August—October.

7. ALTISSIMA. Nutt.

V. caule glabro; foliis lanceolatis, serratis, scabriusculis; involucro parvo, hemispherico, squamis ovatis, acutis, ciliatis, muticis, arcte appressis.

Stem glabrous; leaves lanceolate, serrate, slightly scabrous; involucrum small, hemispherical, scales ovate, acute, fringed, unawned, closely appressed.

Nutt. 2. p. 134.
Chrysocoma Gigantea? Walt. p. 296.

Stem six to ten feet high, nearly glabrous. *Leaves* very long, narrow, nearly smooth on both sides, slightly scabrous, serrulate. *Flowers* small, in an irregular terminal corymb. *Involucrum* hemispherical; scales ovate, acuminate, slightly mucronate, ciliate, closely appressed. *Corolla* purple. *Seeds* furrowed, ribs very slightly hairy. *Pappus* very short, the interior hairy.

This species, although the leaves are not rugose, is probably the C. Gigantea of Walter. It is readily distinguished by its small compact hemispherical involucrum, from any other species which I have seen.
Grows in ditches and damp soils.
Flowers August—October.

BRICKELLIA. E.

Involucrum polyphyllum, imbricatum. *Semina* sub glabra, 10 striata. *Pappus* pilosus sive scaber. *Receptaculum* nudum, punctatum.	*Involucrum* many leaved, imbricate. *Seed* nearly glabrous, 10 streaked. *Pappus* hairy or scabrous. *Receptacle* naked, dotted.

1. CORDIFOLIA. E.

Stem about three feet high, finely pubescent, almost tomentose near the summit. Lower *leaves* opposite, cordate, acuminate, dentate, triplinerved, finely pubescent, particularly on the under surface, on petioles about an inch long; upper *leaves* frequently alternate, obtuse at base. *Flowers* not numerous, moderately large, in a terminal paniculate corymb. *Involucrum* many leaved, many flowered, (forty to fifty); the interior *leaves* linear-lanceolate; the exterior linear, almost setaceous, loosely attached to the summit of the peduncle. *Corolla* tubular, five-cleft at the summit, pale purple. *Stamens* shorter than the corolla, attached to the tube. *Style* much longer than the corolla, two-cleft. *Stigmas* linear, obtuse. *Seed* long, angular, striate, a little hairy towards the summit. *Receptacle* slightly convex, naked, conspicuously dotted. *Pappus* hairy, pale purple, a little scabrous, as long as the corolla.

This plant which in its artificial characters is closely allied to the Eupatorium, differing principally in size and number, in its general aspect, bears more resemblance to the Vernonia. I have named it in commemoration of Dr. John Brickell, of Savannah, who at one period of his life paid much attention to the botany of this country, and made known to Dr. Muhlenberg, Fraser and others, many of its undescribed plants.

Grows on the sides of hills in the western districts of Georgia.

Flowers August—September.

KUHNIA. GEN. PL. 322.

Involucrum cylindraceum, imbricatum. *Pappus* plumosus, sessilis. *Semina* pubescentia, multistriata.	*Involucrum* cylindrical, imbricate. *Pappus* feathered, sessile. *Seeds* pubescent, many streaked.

1. CRITONIA.

K. foliis linearibus, subintegerrimis, subtus punctatis; panicula longa, patente.	Leaves linear, nearly entire, dotted underneath; panicle long, expanding.

Sp. pl. 3. p. 1773. Pursh, 2. p. 512. Nutt. 2. p. 135.
Critonia Kuhnia. Mich. 2. p. 101.

Root thick, somewhat tuberous, perennial. *Stem* slender, about three feet high, striate, pubescent. *Leaves* alternate, sessile, linear, entire, with the margin revolute when young, pubescent. *Flowers* in a very long expanding panicle composed of small, somewhat corymbose clusters. *Involucrum* cylindrical, imbricate, sixteen to twenty leaved, containing eight to ten flowers; the exterior *leaves* small, acute, reflected at the summit; the interior twice as long, linear, erect, pubescent. *Corolla* tubular, white, the border five-cleft, segments acute, with a glandular fringe. Filaments very short, anthers slightly united. *Style* deeply two-cleft. *Seed* cylindrical, firmly striate, nearly glabrous, crowned with a white beautifully feathered pappus. *Receptacle* flat, naked, deeply dotted.

Grows in dry soils.

Flowers September—October.

2. EUPATORIOIDES?

K. caule ramoso, pubescente; foliis lanceolatis, serratis, subtus pubescentibus, glanduloso punctatis; floribus paniculatis.	Stem branching, pubescent; leaves lanceolate, serrate, pubescent underneath, sprinkled with glandular dots; flowers in panicles.

Sp. pl. 3. p. 1772. Pursh, 2. p. 512. Nutt. 2. p. 135.

Stem two to three feet high, branching, the young branches very pubescent. *Leaves* three inches long, lanceolate, irregularly serrate, slightly scabrous on the upper surface, pubescent underneath, thickly spotted with glandular granules. *Involucrum* cylindrical, containing about ten flowers; leaves linear, acute, pubescent, the exterior very small. *Corolla* white. *Seeds* finely striate, more pubescent than those of the preceding species. *Pappus* beautifully feathered.

Grows in the western districts of Georgia; very common in the prairies of the Alabama.

Flowers September—October.*

MIKANIA. Willd.

Receptaculum nudum. *Pappus* pilosus. *Involucrum* 4—6 phyllum, 4—6 florum. *Stylus* semibifidus, longus.	*Receptacle* naked. *Pappus* hairy. *Involucrum* 4—6 leaved, 4—6 flowered. *Style* long, deeply cleft.

1. SCANDENS.

M. caule scandente, glabro; foliis cordatis,	Stem scandent, glabrous; leaves heart-

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* This genus, closely allied in habit and appearance to the Eupatorium, possesses nearly all the artificial characters of the Liatris. One other species I wish to add to this genus, though perhaps not strictly within the limits of this publication.

3. GLUTINOSA. E.

K. glutinoso-pubescens; foliis lanceolatis, superne attenuatis, inciso-dentatis, confertis; floribus corymboso-paniculatis.	Pubescent, glutinous; leaves lanceolate, tapering towards the summit, notched and toothed, crowded; flowers in paniculate corymbs.

Stem about two feet high, branching, with the leaves and calyx very pubescent, sprinkled with glandular dots, and covered with a viscid or glutinous exudation. *Leaves* sessile, lanceolate, the lower sometimes ovate-lanceolate, the upper linear, the large leaves irregularly notched and toothed, sometimes laciniate. *Flowers* in long terminal panicles, composed of small corymbs. *Involucrum* cylindrical, containing eight to ten flowers; scales linear, the exterior very small. *Corolla* white. *Style* as in all of this genus, scarcely longer than the corolla. *Seeds* finely striate, pubescent. *Pappus* as in the two preceding species, beautifully feathered.

Grows in the prairies of the Alabama.

Flowers September—October.

repando-dentatis, acuminatis, lobis divaricatis, inæqualibus; floribus corymbosis.

shaped, repand, toothed, acuminate, with the lobes divaricate, unequal; flowers in corymbs.

Sp. pl. 3. p. 1743. Pursh, 2. p. 517. Nutt. 2. p. 136.
Eupatorium Scandens. Walt. p. 198. Mich. 2. p. 97.

A twining plant, running over small shrubs. *Flowers* white, tinged with blue.

Grows along the margins of water courses from Canada to Carolina. Pursh. Not found in the low country.

Flowers July—September.

2. Pubescens. Muhl.

M. pubescens; caule volubili; foliis cordatis, repando-dentatis, basi-angulatis, acuminatis; involucro quadrifloro.

Pubescent; stem climbing; leaves cordate, repand, toothed, angled at base, acuminate; involucrum four-flowered.

Muhl. Cat. p. 71. Nutt. 2. p. 136.

Root perennial. *Stem* voluble, striate, pubescent, climbing fifteen to twenty feet high. *Leaves* opposite, cordate, conspicuously acuminate, angled and somewhat hastate at base, pubescent, on petioles about an inch long. *Flowers* in paniculate corymbs, axillary and terminal. *Involucrum* composed of four equal leaves, and a fifth exterior and smaller, all linear-lanceolate, acuminate, hairy. *Corolla* tubular, a little longer than the calyx, pale purple, slightly fragrant. *Stamens* very short. *Style* almost twice as long as the corolla, two-cleft. *Seed* oblong, striate, slightly angled when young, glandular. *Pappus* hairy. *Receptacle* naked, dotted.

The Synonyme of Walter, quoted under the preceding species, probably belongs to this. The genus itself is scarcely distinct from Eupatorium.

Grows very abundantly in damp soils.

Flowers July—October.

EUPATORIUM. Gen. Pl. 1272.

Involucrum imbricatum, oblongum. *Stylus*

Involucrum imbricate, oblong. *Style*

longus, semibifidus. *Semina* glabra, (5) striata vel angulata. *Pappus* pilosus, plerumque scaber. *Receptaculum* nudum.	long, deeply cleft. *Seeds* glabrous, 5 striate or angled. *Pappus* hairy, generally scabrous. *Receptacle* naked.
* *Involucris* 3—5 *floris.*	* *Involucrum containing* 3—5 *flowers.*

1. FŒNICULACEUM.

E. caule paniculato; foliis glabris, inferioribus pinnatis, superioribus fasciculatis, omnibus filiformibus.	Stem paniculate; leaves glabrous, the lower pinnate, the upper clustered, all filiform.

Sp. pl. 3. p. 1750. Pursh, 2. p. 512. Nutt. 2. p. 135.
E. Fœniculoides. Walt. p. 199.
Chrysocoma Capillacea. Mich. 2. p. 101.

Root perennial. *Stem* herbaceous, three to ten feet high, striate, clothed with a soft pubescence. Lower *leaves* compoundly pinnate or pinnatifid, the segments generally about an inch long, filiform, glabrous and furrowed along the upper surface; the upper setaceous in fasciculate clusters. *Flowers* very small and numerous, in compound nearly erect panicles. *Involucrum* ten-leaved, three to five flowered, the five interior leaves equal, the exterior small, all linear-lanceolate, pubescent. *Corolla* tubular, five-cleft, of a yellowish white colour, sometimes sprinkled with purple. *Stamens* very short. *Germ* oblong, glabrous. *Style* much longer than the corolla, deeply two-cleft, stigmas glandular, obtuse. *Seeds* cylindrical. *Pappus* slightly scabrous. *Receptacle* naked, dotted.

Grows in pastures very abundantly, preferring damp rich soils. Dog-Fennel.

Flowers September—October.

2. CORONOPIFOLIUM.

E. caule paniculato; foliis inferioribus pinnatifidis, laciniis lanceolato-linearibus, denti-	Stem paniculate; lower leaves pinnatifid, the segments lanceolate linear, denticulate,

culatis, superioribus indivisis, linearibus, fasciculatis, omnibus punctatis, pubescentibus. E.

the upper undivided, linear, clustered, all dotted, pubescent.

Sp. pl. 3. p. 1750. Pursh, 2. p. 512. Nutt. 2. p. 135.
E. Compositifolium. Walt. p. 199.
Chrysocoma Coronopifolia. Mich. 2. p. 102.

Root perennial, creeping? *Stem* herbaceous, erect, three to four feet high, pubescent. Lower *leaves* pinnatifid, segments five to seven, linear, but acute at each end, slightly and sparingly denticulate. *Panicle* compound, with the branches expanding. *Involucrum* eight to ten-leaved, five-flowered, the five interior leaves equal, imbricated at base, with three to five smaller ones, all pubescent, linear-lanceolate, very acute. *Corolla* white, scarcely longer than the involucrum, slightly five-cleft. *Stamens* as long as the corolla. *Germ* oblong, angled. *Style* much longer than the stamens, two-cleft. *Stigmas* single. *Seed* glabrous, crowned with a scabrous pappus as long as the corolla.

This species is closely allied to the preceding, although agreeing in character, they differ in habit and appearance from all the other species of this genus—under this name two species are now probably included.

Grows in dry poor soils.

Flowers September—October.

3. Pinnatifidum. E.

E. foliis pinnatifidis, inferioribus verticillatis, superioribus alternatis, laciniis linearibus, pubescentibus; floribus corymbosis. E.

Leaves pinnatifid, the lower verticillate, the upper alternate, the segments linear, pubescent; flowers in corymbs.

Root perennial. *Stem* erect, three to four feet high, striate, branching towards the summit, pubescent on the branches. Lower *leaves* verticillate by fours, two to three inches long, pinnatifid, the segments linear, one to one and a half inches long, the upper generally alternate. *Flowers* in a large fastigiate corymb. *Involucrum* eight to ten-leaved, five-flowered; leaves oblong, lanceolate, pubescent, sprinkled on the back with glandular dots. *Corolla* white, five-cleft. *Style* much longer than the corolla, deeply two-cleft. *Stigmas* glandular. *Seed* oblong, deeply striate or furrowed, crowned with a scabrous pappus rather longer than the corolla.

Tnis plant appears to connect the two preceding species with the rest of the genus. It has the pinnatifid leaves of the former, with the corymbose flowers that distinguish all of the subsequent species.

Grows in damp soils, in the middle districts of Carolina.

Flowers September—October.

4. LINEARIFOLIUM. Walt.

E. caule subprocumbente, superne villoso; foliis caulinis oppositis, lanceolato-linearibus, rarissime dentatis, interdum fasciculatis; stylo corollam subæquante.	Stem somewhat procumbent, villous towards the summit; stem leaves opposite, lanceolate-linear, rarely toothed, sometimes clustered; style as long as the corolla.

Walt. p. 199. Mich. 2. p. 97. Pursh, 2. p. 513.? Sp. pl. 3. p. 1750.?

Stem generally procumbent, one to two feet high, almost viscidly pubescent, branches opposite and alternate. Stem *leaves* generally opposite, sessile, three-nerved, pubescent, slightly scabrous, having generally at their base verticillate clusters of smaller leaves. *Flowers* in an irregular corymb. *Involucrum* cylindrical, ten-leaved, five-flowered; leaves linear, very villous, sprinkled with glandular dots. *Corolla* white. *Stamens* very short. *Germ* angled. *Style* two-cleft, not longer than the corolla. *Stigmas* obtuse, glandular. *Seed* furrowed, crowned with a scabrous pappus.

Grows commonly in dry soils.

Flowers August—October.

5. HYSSOPIFOLIUM. Linn.

E. caule erecto; foliis infimis oppositis, lanceolato-linearibus, subdentatis; corymbo subfastigiato; stylo corolla multo longiore.	Stem erect; lowest leaves opposite, lanceolate-linear, slightly toothed; corymb nearly fastigiate; style much longer than the corolla.

Sp. pl. 3. p. 1749.? Pursh, 2. p. 512.?

Stem straight, erect, about two feet high, pubescent, branches generally alternate. *Leaves* sessile, the lowest opposite, the upper alternate, linear lanceolate, slightly toothed, dotted, pubescent, bearing sometimes at base clusters of small leaves. *Flowers* in a terminal, somewhat fastigiate corymb.

Involucrum ten-leaved, five-flowered; leaves linear-lanceolate, pubescent, sprinkled with glandular dots, purplish at the summit. *Corolla* white, sprinkled with glandular dots. *Stamens* very short. *Style* much longer than the corolla, two-cleft. *Stigmas* obtuse. *Seed* furrowed, sprinkled with glandular dots; crowned with a scabrous almost feathered pappus.

This species has evidently been confounded with the preceding by Walter and Michaux, and I feel uncertain whether my references to Willdenow and Pursh are correct. This species, however, appears to me sufficiently distinct.

Grows very common, preferring damp soils.

Flowers September—October.

6. GLAUCESCENS. E.

E. foliis subsessilibus lanceolatis, obtuse serratis, basi integerrimis, triplinervibus, sub glaucis, pubescentibus; floribus corymbosis. E.	Leaves nearly sessile, lanceolate, obtusely serrate, entire at base, triplinerved, somewhat glaucous, pubescent; flowers in corymbs.

Stem about two feet high, pubescent. *Leaves* of the stem generally opposite, scarcely more than an inch long, but wide in proportion to their length, with three to four obtuse serratures from the middle to the summit, pubescent on both surfaces, acute at base, but scarcely petiolate, and generally bearing a pair of small lanceolate leaves in each axil; the leaves of the branches small and generally alternate, all of an olive green and somewhat glaucous hue. *Flowers* in corymbs. *Involucrum* eight to ten-leaved, five-flowered; the leaves lanceolate, acute, sprinkled externally with glandular dots. *Corolla* white. *Style* much longer than the corolla, two-cleft. *Pappus* slightly scabrous.

Grows in rich shaded soils.

Flowers September.

7. SESSILIFOLIUM.

E. foliis sessilibus, amplexicaulibus, distinctis, ovato-lanceolatis, basi rotundatis, serratis, glaberrimis; caule glabriusculo.	Leaves sessile, amplexicaule, distinct, ovate-lanceolate, round at base, serrate, very glabrous; stem nearly glabrous.

Sp. pl. 3. p. 1251. Walt. p. 199. Mich. 2. p. 98. Pursh, 2. p. 518.

Stem obscurely four-angled, sprinkled with hairs which are scarcely visible without a lens. *Leaves* rounded at base, amplexicaule, opposite but not connate, sprinkled underneath with minute resinous dots. *Peduncles* pubescent. Willd.

Grows in the mountains. Pursh, Mich.

Flowers August—September.

8. TRUNCATUM. Muhl.

E. foliis sessilibus, amplexicaulibus, distinctis, lanceolatis, basi truncatis, serratis, glabriusculis; caule pubescente.	Leaves sessile, amplexicaule, distinct, lanceolate, truncate at base, serrate, nearly glabrous; stem pubescent.

Sp. pl. 3. p. 1751. Pursh, 2. p. 513.

Stem covered, particularly towards the summit, with slender, jointed, white hair. *Leaves* opposite, sessile, amplexicaule, distinct, rather broad, very glabrous on the upper surface, pubescent underneath along the veins, and sprinkled with resinous dots, obtusely serrate and truncate at base. *Peduncles* and *Involucrum* pubescent. Very similar to E. Sessilifolium, yet sufficiently distinct by a stem pubescent, leaves truncate at base, the serratures larger and more obtuse, and the involucrum more pubescent. Willd.

I have taken the description of this and the preceding species from Willdenow. Specimens which have been sent me under these names from Pennsylvania, North-Carolina, and the mountains of South-Carolina, are not to me sufficiently distinct; perhaps I have seen only one species.

Grows on the Saluda and Alleghany mountains.

Flowers August—September.

9. ALBUM. Linn.

E. foliis subsessilibus, oblongo lanceolatis, scabriusculis, serratis; involucri squamis interioribus elongatis, lanceolatis, scariosis, albis.	Leaves nearly sessile, oblong-lanceolate, somewhat scabrous, serrate; the interior scales of the involucrum long, lanceolate, scarious, white.

Sp. pl. 3. p. 1752. Walt. p. 199. Pursh, 2. p. 513.
E. Glandulosum. Mich. 2. p. 98.

Stem erect, about two feet high, striate, villous. Lower *leaves* opposite, the upper alternate, all sessile, lanceolate, coarsely toothed, dotted, pubescent and scabrous. *Flowers* in fastigiate corymbs. *Involucrum* ten-leaved, five-flowered; leaves linear-lanceolate, very acute, thickly sprinkled with glandular dots. *Corolla* white. *Stamens* short. *Anthers* purple. *Style* scarcely longer than the corolla, two-cleft. *Seeds* furrowed, crowned with a scabrous pappus.

Grows in dry poor soils.

Flowers August—September.

10. PARVIFLORUM. E.

E. foliis sessilibus, angusto-lanceolatis, acutissime serratis, triplinervibus, utrinque pubescentibus; floribus corymbosis, parvulis, seminibus angulatis. E.

Leaves sessile, narrow lanceolate, very acutely serrate, pubescent on both surfaces; flowers in corymbs, small; seeds angled.

Stem about two feet high, pubescent. *Leaves* opposite and alternate, about two inches long, with numerous and acute serratures, entire at base, and tapering almost to a petiole. *Flowers* in terminal corymbs. *Involucrum* eight to ten-leaved; the interior leaves strap shaped, the exterior small, all very pubescent and sprinkled with glandular dots. *Corolla* white, with the pappus scarcely longer than the involucrum. *Style* much longer than the corolla. *Seeds* angled not furrowed. *Pappus* very slightly scabrous.

The flowers of this plant are much smaller than those of any other of the corymbose species which I have seen.

Collected in St. Thomas' by Mr. Caradeux.

Flowers in September.

11. SCABRIDUM. E.

E. foliis sessilibus, ovato-lanceolatis, acute serratis, basi integris, pubescentibus, subscabris, subtus sub-

Leaves sessile, ovate-lanceolate, acutely serrate, entire at base, pubescent, slightly scabrous, somewhat glau-

glaucis; floribus corymbosis; involucri squamis acutissimis. E.	cous underneath; flowers in corymbs; scales of the involucrum very acute.

Stem two to three feet high, pubescent, the lower branches brachiate, the upper alternate. *Leaves* scarcely more than an inch long, opposite, ovate, acute at each end, with numerous serratures. *Involucrum* ten-leaved, five-flowered. *Leaves* lanceolate, somewhat mucronate, hairy, sprinkled with glandular dots. *Corolla* white, longer than the involucrum. *Stamens* very short. *Style* longer than the corolla, two-cleft. *Seed* angled. *Pappus* scabrous.

Grows in dry soils.

Flowers from August to October.

12. ROTUNDIFOLIUM.

E. foliis sessilibus, distinctis, subrotundo-deltoidibus, obtuse serratis, venosis, sub glaucis; involucri squamis acutis.	Leaves sessile, distinct, deltoid, nearly round, obtusely serrate, veined, somewhat glaucous; scales of the involucrum acute.

Sp. pl. 3. p. 1754. Mich. 2. p. 93. Pursh, 2. p. 514. Nutt. 2. p. 135. E. Marrubium? Walt. p. 199.

Stem two to three feet high, very pubescent. *Leaves* opposite, decussate, triplinerved, dotted, slightly scabrous, with a somewhat glaucous or perhaps more correctly hoary hue. *Flowers* in a fastigiate corymb. *Involucrum* ten-leaved, five-flowered; leaves lanceolate, acute, very pubescent. *Corolla* white. *Stamens* very short. *Style* much longer than the corolla. *Seeds* angled. *Pappus* scabrous, longer than the corolla.

Decoctions of this as well as of the preceding species are used with much success as a tonic febrifuge.

I have always suspected this plant to be the E. Marrubium of Walter. It is commonly known through our low country as the wild horehound, and its leaves bear more affinity to the garden horehound, (marrubium vulgare) than those of any other of our species.

Grows in dry pine barrens.

Flowers from July to September.

13. VERBENÆFOLIUM. Mich.

E. foliis sessilibus, ovato-lanceolatis, oblongis, inciso-dentatis, rugosis, scabris; floribus parvulis. E.

Leaves sessile, ovate-lanceolate, oblong, notched and toothed, rugose, scabrous; flowers small.

Michaux, 2. p. 98.
E. Teucrifolium? Sp. pl. 3. p. 1753.

Stem herbaceous, erect, two to three feet high, pubescent. *Leaves* of the stem opposite, decussate, somewhat deltoid, tapering to an obtuse point, coarsely toothed, particularly towards the base, dotted, very hairy on the under surface. *Flowers* in a somewhat fastigiate corymb. *Involucrum* ten-leaved, five-flowered; leaves lanceolate, not very acute, very hairy. *Corolla* small, white. *Style* much longer than the corolla. *Stigmas* reflexed. *Seed* angled. *Pappus* very scabrous.

The E. Lanceolatum of Muhlenberg, which I have not seen in the Southern States, appears to be an intermediate species between this and the E. Album, nearly allied to each, yet sufficiently distinct.

If the synonyme from Willdenow which I have quoted, belongs really to this species, I know not why Michaux's name should have been changed; it has the claim of priority, and it is equally perhaps more appropriate.

Grows in damp soils.

Flowers August—September.

14. PUBESCENS. Muhl.

E. foliis sessilibus, distinctis, ovatis, scabriusculis, venosis; inferioribus duplicato serratis, superioribus subserratis; caule paniculato, pubescente, ramis fastigiatis.

Leaves sessile, distinct, ovate, somewhat scabrous, veined, the lower doubly serrate, the upper slightly serrate; stem paniculate, pubescent, branches fastigiate.

Sp. pl. 3. p. 1755. Pursh, 2. p. 514. Nutt. 2. p. 125.

Stem erect, pubescent; like the leaves the lower branches are opposite, the upper alternate. *Leaves* ovate, the lower sometimes oval, two to three inches long, obtuse at base, tapering to an acute summit, rather thin and slightly scabrous, corymb fastigiate. *Involucrum* ten-leaved, five-flowered; leaves linear-lanceolate, acute, hairy. *Corolla* white, and with the pappus nearly twice as long as the involucrum. *Style* longer than the corolla. *Seed* angled. *Pappus* scabrous.

Grows from New-Jersey to Carolina. Pursh. My specimens are from Pennsylvania.

Flowers August—October.

15. CUNEIFOLIUM. Willd.

E. foliis petiolatis, obovato - lanceolatis, apice subserratis, triplinervibus, utrinque pubescentibus.	Leaves on petioles, obovate - lanceolate, slightly serrate at the summit, triplinerved, pubescent on each surface.

Sp. pl. 3. p. 1753. Pursh, 2. p. 514.

Stem terete, pubescent. *Leaves* opposite, pubescent on both surfaces; the lower obovate, lanceolate, obtusely serrate, slightly petiolate; the upper petiolate, with a few serratures near the summit. *Flowers* white.

With this species I am unacquainted, it is however singular that both Willd. and Pursh should quote as a synonyme the E. Marrubium of Walt. which is described as having sessile, deltoid leaves.

Grows in Carolina. Willd. Pursh. Not above a foot high. Pursh.

Flowers.

** *Involucris multifloris* (5—50.)	** *Involucrum many flowered.*

16. PERFOLIATUM.

E. foliis connato-perfoliatis, rugosis, subtus tomentosis; caule villoso.	Leaves connate–perfoliate, rugose, tomentose underneath; stem villous.

Sp. pl. 3. p. 1761. Walt. p. 200. Pursh, 2. p. 516.
E. Connatum. Mich. 2. p. 99.

Stem three to six feet high, striate, villous almost tomentose, and with the leaves and involucrum hoary and sprinkled with glandular dots. Lower *leaves* connate, the upper distinct, abruptly truncate at base, all tapering gradually to the summit, serrate, rugose, slightly pubescent on the upper surface, tomentose underneath. *Involucrum* many leaved, (fourteen to sixteen,) eight to ten flowered, leaves linear-lanceolate, acute, pubescent, imbricate. *Corolla* small, white, glabrous. *Style* nearly twice as long as the corolla, two-cleft, stigmas simple. *Seed* angular, pappus scabrous.

A decoction of this plant is much used and recommended in fevers; it acts as an emetic or sudorific, according to the constitution of the patient.

Grows in wet soils.

Flowers September—October.

17. CEANOTHIFOLIUM. Muhl.

Foliis petiolatis, ovatis, acuminatis, dentatis, triplinervibus, sub glabris; involucris 5—10 floris, squamis subæqualibus.

Leaves on petioles, ovate, acuminate, toothed, triplinerved, somewhat glabrous; involucrum 5—10 flowered, scales nearly equal.

Sp. pl. 3. p. 1755. Pursh, 2. p. 514.

Stem two to three feet high, sometimes slightly pubescent. *Leaves* opposite, on petioles about an inch long, ovate-lanceolate, slightly acuminate, dentate, triplinerved, strongly veined, slightly scabrous, and pubescent along the veins, very obtuse at base. *Flowers* in terminal corymbs. *Involucrum* ten-leaved, five to ten flowered; leaves nearly equal, one or two sometimes smaller than the rest, all linear-lanceolate, pubescent. *Corolla* white. *Style* longer than the corolla, two-cleft. *Seeds* angled. *Pappus* hairy, less scabrous than usual in the preceding species.

From my much valued friend Dr. Schweinitz, I received under the name of E. Melissoides, a plant nearly allied to this. It differs however by its leaves, more pubescent, more acuminate, less scabrous, and less obtuse at base, and its florets generally more numerous, eight to twelve in each capitulum. It may prove a distinct species, but it is scarcely the E. Melissoides described by Willdenow. It was collected around Salem, N. Carolina.

Grows in shaded rich soils. Paris Island, near Beaufort.

Flowers September.

18. AGERATOIDES.

E. foliis petiolatis, ovato-lanceolatis, acuminatis, triplinervibus, grosse serratis, glabris; corymbo multifloro;

Leaves on petioles, ovate-lanceolate, acuminate, triplinerved, coarsely serrate, glabrous; corymb many

involucri squamis sub æqualibus. E.	flowered; scales of the involucrum nearly equal.

Sp. pl. 3. p. 1765. Pursh, 2. p. 516.
E. Urticæfolium. Mich. 2. p. 100.

Stem 2 to 3 feet high, smooth, glabrous; leaves generally opposite, two to four inches long, glabrous, coarsely toothed, on petioles two inches long. *Involucrum* ten to twelve-leaved, twelve to sixteen-flowered; leaves linear-lanceolate, finely pubescent, nearly equal in length. *Corolla* white. *Style* longer than the corolla. *Seeds* angled, glabrous. *Pappus* slightly scabrous.

I feel doubtful whether the plant I have described is the E. Ageratoides of Muhl.; it certainly is the E. Urticæfolium of Mich. and its leaves bear a striking resemblance to those of the Urtica, (now Boehmeria) cylindrica.

Grows in damp rich soils. Paris Island.

Flowers September.

19. AROMATICUM?

E. foliis petiolatis, cordato-ovatis, acutis, triplinervibus, obtuse serratis, sub scabris; floribus corymbosis; involucri squamis subæqualibus. E.	Leaves on petioles, cordate-ovate, acute, triplinerved, obtusely serrate, somewhat scabrous; flowers in corymbs; scales of the involucrum nearly equal.

Sp. pl. 3. p. 1765. Mich. 2. p. 100. Pursh, 2. p. 516.
E. Cordatum. Walt. p. 199.

Stem about two feet high, terete, very finely pubescent. *Leaves* opposite, on short peduncles, the lower very distinctly cordate, all acute not acuminate, tripli-nerved, coarsely and unequally toothed, somewhat scabrous on the upper surface, finely pubescent underneath. *Flowers* in a terminal corymb, the lower branches opposite, brachiate. *Involucrum* about ten-leaved, thirteen to twenty flowered; leaves lanceolate, pubescent, nearly equal. *Corolla* very white, nearly twice as long as the involucrum, fragrant. *Anthers* white. *Style* longer than the corolla. *Seeds* angled. *Pappus* slightly scabrous.

This plant is certainly the E. Aromaticum of Michaux, and E. Cordatum of Walter. Whether it is the E. Aromaticum of Linnæus and Gronovius is, I think, questionable; it does not resemble the figure referred to in Plukenet t. 88. f. 3.

Grows in rich dry soils.

Flowers August—October.

20. Serotinum. Mich.

E. foliis petiolatis, ovato-lanceolatis, superne attenuatis, acutis, grosse et acute serratis, triplinervibus, pubescentibus; involucri squamis imbricatis. E.

Leaves petiolate, ovate-lanceolate, tapering towards the summit, acute, coarsely and acutely serrate, triplinerved, pubescent; scales of the involucrum imbricate.

Mich. 2. p. 100. Pursh, 2. p. 517.

Stem five to six feet high, pubescent, almost tomentose. *Leaves* large, five to six inches long, ovate, tapering gradually to the summit, which is sometimes acuminate; lower leaves opposite, the lowest slightly cordate. *Petioles* two to three inches long. *Flowers* in a fastigiate corymb, very numerous, rather small. *Involucrum* ten-leaved, twelve to fourteen flowered; leaves linear, very villous. *Corolla* white. *Seeds* angled. *Pappus* scabrous.

The expression of Michaux, "rariter serratis" is incorrect, and has, I suspect, given rise to some doubts about the species.

Grows in the vallies of the Sea-Islands.

Flowers September—October.

21. Incarnatum. Walt.

E. foliis longe petiolatis, cordato-deltoidibus, acutis, obtuse dentatis, triplinervibus, subglabris; involucri squamis subæqualibus. E.

Leaves on long petioles, deltoid, cordate, acute, obtusely toothed, triplinerved, thin, nearly glabrous; scales of the involucrum nearly equal.

Walt. p. 200.

Stem about two feet high, covered with a fine scarcely visible pubescence, sparingly branched. *Leaves* opposite, on slender petioles one to two inches long, deltoid, very acute, very thin, cordate and thinly sprinkled with short hair. *Flowers* in terminal corymbs, more loosely aggregated than in the following species. *Involucrum* fifteen to twenty-leaved, bearing about twenty flowers; leaves linear-lanceolate, very acute, a little pubescent, nearly as long as the corolla, a few of the exterior ones a little shorter than the rest. *Corolla* purple. *Style* a little longer than the corolla, two-cleft. *Seed* angled. *Pappus* hairy.

This plant appears to me to differ very much from the E. Cœlestinum with which it has usually been confounded; it is a more slender plant, its leaves are thinner and more glabrous, the corymbs less compact, the scales of the involucrum less numerous but larger, the style comparatively shorter. It is probably the plant of Petiver alluded to by Dillenius, Hort. Elth. p. 140.

Grows in loose rich soils.

Flowers October to November.

22. CŒLESTINUM.

E. foliis petiolatis, cordato-ovatis, obtuse dentatis, triplinervibus, subscabris; involucris polyphyllis, multifloris; receptaculis conicis.	**Leaves petiolate, cordate-ovate, obtusely toothed, triplinerved, slightly scabrous; involucrum many leaved, many flowered; receptacle conic.**

Sp. pl. p. 1764. Walt. p. 200. Mich. 2. p. 100. Pursh, 2. p. 516.

Stem two to three feet high, pubescent. *Leaves* on petioles about half an inch long, opposite, deltoid, sometimes cordate, somewhat rugose, pubescent and slightly scabrous. *Flowers* in close fastigiate corymbs. *Involucrum* many leaved, (thirty) many flowered, (forty to sixty); leaves imbricate, linear, pubescent. *Corolla* small, of a beautiful light blue colour, sprinkled with red dots, very fragrant. *Style* twice as long as the corolla, blue. *Seed* angled. *Pappus* scabrous. *Receptacle* conic, naked, dotted.

Grows in rich shaded soils.

Flowers September—October.

**** Involucri squamis scariosis; foliis sub verticillatis.*	**** Involucrum with the scales scarious; leaves verticillate.*

23. TERNIFOLIUM.

E. foliis petiolatis, ternis, quaternisve, ovatis ovalibusque, acu-	**Leaves on petioles, ternate, or quaternate, ovate and oval, acùmi-**

minatis, dentatis, subtus pubescentibus, glanduloso punctatis. E.	nate, toothed, pubescent underneath, dotted with glands.

E. Trifoliatum. Sp. pl. 3. p. 1756. Walt. p. 199. Pursh, 2. p. 516. Nutt. 2. p. 135.

Stem three to four feet high, striate, pubescent, solid. *Leaves* generally ternate, on petioles about an inch long, ovate or oval, but always acuminate, obtuse at base, thinly sprinkled with hairs on the upper surface, pubescent and almost covered with glandular dots on the under. *Flowers* in large terminal corymbs. *Involucrum* about fifteen-leaved, imbricate, the interior leaves linear-lanceolate, long, nerved, slightly pubescent, the exterior short, nearly ovate, more pubescent, all membranaceous or scarious, and adhering very slightly to the receptacle. *Corolla* tinged with purple. *Style* much longer than the corolla, deeply two-cleft, stigmas linear. *Seed* angled. *Pappus* filiform.

The species I have described above is certainly distinct, and is probably the real plant of Gronovius, "foliis ternis," Flor. Virg. p.   but I have among my specimens one with ternate leaves, which most probably belongs to E. Verticillatum, and from such a specimen the phrase "utrinque attenuatis," which Willdenow and Pursh apply to this species, has possibly been derived.

Grows in damp soils; rare in the low country of Carolina.

Flowers September—October.

24. PURPUREUM.

E. foliis petiolatis, quaternis quinisve, ovali lanceolatis, serratis, rugoso-venosis, scabriusculis; caule fistuloso.	Leaves on petioles, by fours or fives, oval lanceolate, serrate, rugose, veined, slightly scabrous; stem hollow.

Sp. pl. 3. p. 1759. Mich. 2. p. 99. Pursh, 2. p. 515.

Stem four to seven feet high, nearly glabrous, tinged with purple, hollow. *Leaves* four to six, in a whorl, oval-lanceolate, serrate, nearly glabrous on the upper surface, underneath reticulately veined, somewhat pubescent and sprinkled with glandular dots, tapering at base to a petiole about an inch long, sometimes tinged with purple. *Involucrum* generally five-flowered, very similar to that of the preceding species, but less pubescent. *Corolla* pale purple. *Style*, *Stigma* and *Seed* similar to those of the preceding species.

Grows in wet soils.

Flowers September.

25. MACULATUM.

E. foliis petiolatis, quaternis quinisve, ovato lanceolatis, inæqualiter serratis, subtus pubescentibus; caule solido, sulcato.	Leaves on petioles, by fours or fives, ovate lanceolate, unequally serrate, pubescent underneath; stem solid, furrowed.

Sp. pl. 3. p. 1760. Mich. 2. p. 99. Pursh, 2. p. 1760.

Stem four to five feet high, furrowed, not hollow, dotted with purple. *Leaves* verticillate, lanceolate and ovate, acute at each end, pubescent and slightly scabrous underneath. *Involucrum* five to eight flowered. *Corolla* tinged with purple. *Style*, *Stigma*, and *Seed*, very similar to those of the preceding species.

Grows in wet soils.

Flowers August—September.

26. VERTICILLATUM.

E. foliis petiolatis, ternis quaternisve, ovato lanceolatis, utrinque acuminatis, inæqualiter serratis, glabriusculis; caule solido, lævi.	Leaves on petioles, by threes or fours, ovate lanceolate, acuminate at each end, unequally serrate, nearly glabrous; stem solid, smooth.

Sp. pl. 3. p. 1760. Pursh, 2. p. 515.
E. fusco-rubrum? Walt. p. 199.

Stem four to six feet high, smooth, pubescent near the summit, tinged with purple. *Leaves* verticillate, large, ovate-lanceolate, acuminate at each end, with very large serratures, glabrous, sprinkled with glandular dots on the under surface. *Flowers* in a terminal corymb, rather smaller than those of the preceding species. *Involucrum* ten to twelve leaved, five flowered, leaves oblong and ovate, obtuse, scarious, glabrous. *Corolla* purple. *Seeds* angled, pappus slightly scabrous.

Grows in damp soils, in the upper districts of South-Carolina and Georgia.

Flowers September.

CHRYSOCOMA. Gen. Pl. 1019.

Involucrum imbricatum. *Stylus* vix flosculis longior. *Receptaculum* nudum. *Semina* pubescentia. *Pappus* pilosus, scaber.	*Involucrum* imbricate. *Style* scarcely longer than the florets. *Receptacle* naked. *Seeds* pubescent. *Pappus* hairy, scabrous.

1. Nudata.

C. foliis radicalibus spathulato-lanceolatis, caulinis linearibus, rariter sparsis; corymbo composito, fastigiato; calycibus oblongis, 3—4 floris.	Leaves of the root spathulate, lanceolate, of the stem linear, scattered; corymb compound, fastigiate; calyx oblong, 3—4 flowered.

Mich. 2. p. 101. Pursh, 2. p. 517. Nutt. 2. 137.

Root perennial. *Stem* erect, about two feet high, glabrous, branching near the summit. *Root leaves* obovate, lanceolate, narrow, acute, glabrous, entire, three-nerved, with a long attenuated base. *Stem leaves* scattered, the lower ones similar to the root leaves, but small, the upper ones linear, minute. *Flowers* in a terminal corymb. *Involucrum* oblong, eight to ten-leaved, containing three to four flowers, leaflets linear, rugose, appressed, glabrous, yellowish. *Corolla* tubular, glabrous, yellow, segments acute, reflected. *Style* scarcely as long as the stamens, two-cleft. *Stigmas* somewhat lanceolate, glandular, erect. *Seed* obovate, striate, hairy. *Pappus* hairy, scabrous, unequal. *Receptacle* flat, with a small membrane between the germs.

Grows in flat pine barrens. Very common.

Flowers October—November.

CACALIA. Gen. Pl. 1275.

Involucrum cylindricum, basi squamosum. *Receptaculum* nudum. *Pappus* pilosus.	*Involucrum* cylindrical, scaly at base. *Receptacle* naked. *Pappus* hairy.

1. Atriplicifolia.

C. caule herbaceo; foliis petiolatis, glabris, subtus glaucis, radicalibus cordatis, dentatis, caulinis rhombeis utrinque subdentatis; floribus corymbosis, erectis; involucris 5-floris.

Stem herbaceous; leaves on petioles, glabrous, glaucous underneath, those of the root cordate, toothed, of the stem rhomboidal, slightly toothed on each side; flowers in corymbs, erect; involucrums 5-flowered.

Sp. pl. 3. 1737. Walt. p. 195. Mich. 2. p. 96. Pursh, 2. p. 518. Nutt. 2. p. 137.

Root perennial. *Stem* erect, three to eight feet high, branching, glabrous, somewhat glaucous. *Leaves* cordate, almost reniform, the upper ovate, rhomboidal, and lanceolate, all sinuate, with the summits of the lobes acute, sometimes dentated and glaucous underneath. *Flowers* in small terminal corymbs. *Peduncles* almost white, clothed with small subulate pale or colourless scales. *Involucrum* composed of five equal, linear, three-nerved, glabrous, colourless leaves, containing five flowers. *Corolla* tubular, whitish, tinged a little with purple. *Styles* bifid. *Stigmas* glandular. *Seed* oblong, glabrous, obovate. *Pappus* hairy, scabrous, very white. *Receptacle* naked, with an irregular angular somewhat glandular mass in the centre. This mass, composed perhaps of soldered scales, is generally three-cleft at the summit, curved at base, as if embracing the stems of the florets, but of three more distinctly than the other two.

Variety Angulata.

I have specimens collected in St. Thomas' and in the middle districts of Carolina, in which the leaves are nearly round, deeply and acutely divided into seven or more lobes, the lobes sometimes dentate, in other respects agreeing with this species.

Grows generally in rich soils.

Flowers July—September.

2. Ovata. Walt.

C. caule herbaceo; foliis ovatis, obtusis, obtuse-dentatis, nervosis, subtus subglaucis,

Stem herbaceous; leaves ovate, obtuse, obtusely toothed, nerved, slightly glaucous

inferioribus petiolatis, involucris 5-phyllis, 5-floris.	underneath, the lower on petioles; involucrum 5-leaved, 5-flowered.

Walt. p. 196.

Stem three to four feet high. *Leaves* large, acute, very irregularly and obtusely toothed, seven-nerved, and slightly glaucous underneath. *Flowers* in a fastigiate corymb, pedicel clothed with small subulate scales, which sometimes surround the base of the involucrum. *Involucrum* oblong, composed of five equal, linear leaves. *Corolla* white. *Seed* smooth. *Pappus* hairy, white. *Receptacle* naked, with a glandular projection in the centre.

The root of this plant I did not observe; it appears to have been noticed by Walter, and to resemble very closely the C. Tuberosa of Nuttall; yet differing from both of their descriptions. My specimens, which are now before me, are distinctly though slightly glaucous underneath.

Grows in the western parts of Georgia. Common in the highlands near the Alabama.

Flowers September—October.

3. Lanceolata?

C. caule herbaceo; foliis angusto-lanceolatis, utrinque acutis, remote dentatis, nervosis, subtus subglaucis; involucris 5-phyllis, 5-floris.	Stem herbaceous; leaves narrow lanceolate, acute at each end, remotely toothed, nerved, slightly glaucous underneath; involucrum 5-leaved, 5-flowered.

Nutt. 2. p. 138.

Stem four to six feet high. *Leaves* long, narrow, lanceolate, remotely, but distinctly and acutely dentate, obscurely seven-nerved, slightly glaucous underneath. *Flowers* in a terminal corymb, pedicels more naked than in the preceding species. *Involucrum* composed of five equal, linear-lanceolate, acute scales, with membranaceous margins. *Corolla* nearly white. *Seed* smooth, glabrous, striate. *Pappus* hairy, white. *Receptacle* very small, with a glandulary projection in the centre.

Sent to me from Louisville, Georgia, by Mr. Jackson.

Flowers—

SPARGANOPHORUS. Gœrt.

Involucrum subglobosum imbricatum; squamis apice recurvatis. *Semina* coronata cupula subcartilaginea nitida. *Receptaculum* nudum.

Involucrum somewhat globose, imbricate; scales recurved at the summit. *Seeds* crowned with a cartilaginous shining cup. *Receptacle* naked.

1. Verticillatus.

S. foliis linearibus, verticillatis; capitulis paucis, terminalibus; cupula campanulata, 5-dentata.

Leaves linear, verticillate; heads few, terminal; cup campanulate, 5-toothed.

Mich. 2. p. 95. Pursh, 2. p. 518. Nutt. 2. p. 139.
Ethulia Uniflora. Walt. p. 195.

An aquatic plant, growing in shallow water.

Roots fibrous, creeping. *Stem* scarcely exceeding a foot in height, pubescent towards the summit, simple. *Leaves* linear, about an inch long, glabrous, verticillate, generally six in each whorl. Heads terminal, sometimes solitary, frequently accompanied with other heads near the summit. *Involucrum* imbricate, containing many flowers, leaves lanceolate, acuminate, pubescent, the summits recurved, coloured. *Corolla* tubular, not much longer than the involucrum, pale purple. *Seed* glabrous, five angled, crowned with a membranaceous pappus, deeply five-cleft.

The pappus in this species appears to me to be composed of five distinct, ovate, membranaceous, denticulate scales, forming a proper calyx.

Grows in the flat pine barrens in the middle districts of Carolina.

Flowers—

HYMENOPAPPUS. L'Heritier.

Involucrum polyphyllum, foliolis obovatis coloratis, patentibus,

Involucrum many leaved, leaves obovate coloured, expanding,

interioribus petaliformibus. *Pappus* paleaceus, squamis brevibus, obtusis. *Receptaculum* nudum.

the interior petal-shaped. *Pappus* chaffy, scales short, obtuse. *Receptacle* naked.

1. Scabiosæus.

H. candicanti-lanuginosus; foliis profunde pinnatifidis, laciniis lineari-oblongis, subdentatis; floribus corymbosis.

Lanuginous, hairy; leaves deeply pinnatifid; segments linear, oblong, slightly toothed; flowers in corymbs.

Mich. 2. p. 104. Pursh, 2. p. 519. Nutt. 2. p. 139.

Root perennial. *Stem* two to three feet high, furrowed, angular, tomentose. *Leaves* alternate, long, slender, irregularly pinnatifid, the segments remote, scarcely confluent, linear, sinuate-dentate, the upper ones more distinctly pinnatifid, with the segments entire, all tomentose and hairy underneath. *Flowers* in small terminal corymbs. *Involucrum* many leaved, containing many flowers, leaflets obovate, nearly round, tomentose on the back, membranaceous, white, the interior large and expanding, giving the flowers a radiated appearance. *Florets* tubular, whitish, externally pubescent; border five-cleft, with the segments revolute. *Stamens* extended, with their projecting summits very conspicuous. *Style* longer than the stamens. *Stigmas* two, revolute. *Seed* conical, a little hairy. *Pappus* composed of many short, obtuse, denticulate, membranaceous leaves.

Grows around ponds in the high pine barrens in the middle districts of Carolina and Georgia. I believe very rare. Scriven and Burke counties, Georgia.

Flowers in April.

POLYPTERIS. Nutt.

Involucrum polyphyllum, foliolis ovalibus. *Pappus* paleaceus, polyphyllus, foliolis lato-subulatis, cus-

Involucrum many leaved, leaves oval. *Pappus* chaffy, many leaved, the chaff broad-subulate, cuspidate, ri-

pidatis, rigidis, semina æquantibus.

gid, as long as the seed.

1. INTEGRIFOLIA.

Nutt. 2. p. 139.

Root perennial. *Stem* erect, three to four feet high, a little scabrous, branching near the summit. *Leaves* alternate, linear lanceolate, entire, scabrous. *Involucrum* composed of eight to twelve leaves; leaves oblong, membranaceous. *Florets* numerous, with a border deeply five-cleft; segments reflected. *Stamens* extended. *Style* longer than the stamens, two-cleft. *Stigmas* linear, pubescent. *Seed* quadrangular, slightly scabrous, black, tapering at base, to a very acute point. *Pappus* nine-leaved, leaves subulate, with a midrib-prominent and rigid, pubescent on the back; the margin membranaceous, lacerate.

Discovered by Dr. Baldwin, near St. Mary's, Georgia.

Flowers.

MELANANTHERA. Mich.

Involucrum duplici serie polyphyllum, subæquale. *Receptaculum* paleaceum, convexum, paleis foliaceis. *Semina* turbinata, angulata, vertice depresso. *Pappus* erectus, (2—8) scaber, distinctus, deciduus. Brown.

Involucrum many leaved, leaves nearly equal in a double series. *Receptacle* chaffy, convex, with the chaff leaflike. *Seeds* turbinate, angled, depressed at the summit. *Pappus* composed of distinct, deciduous, scabrous bristles.

1. HASTATA.

M. foliis hastato-trilobis; paleis receptaculi lanceolatis, acuminatis.

Leaves hastate three lobed; chaff of the receptacle lanceolate, acuminate.

Mich. 2. p. 107. Pursh, 2. p. 519. Nutt. 2. p. 140.
Bidens Nivea. Sp. pl. 3. p. 1721. Walt. p. 201.

Root perennial. *Stem* erect, four to six feet high, quadrangular, deeply furrowed, scabrous, spotted, branching. *Leaves* opposite, decussate on the angles of the stem, hastate, lanceolate, acute, toothed, scabrous, somewhat hispid, triplinerved, on petioles one to two inches long. *Peduncles* somewhat terminal, frequently by pairs, bearing each one head of flowers. *Involucrum* sixteen to twenty leaved, in two rows, leaflets equal, oblong-lanceolate, hispid, a little shorter than the corolla. *Corolla* tubular, pubescent, very white, border five-cleft. *Stamens* as long as the corolla, black, with their terminating summits white. *Style* as long as the stamens. *Stigma* reflected, acute, glandular. *Seed* turbinate, quadrangular, compressed, the two angles slightly winged. *Pappus* composed of two or three bristles, shorter than the corolla, scabrous, with small erect prickles. *Receptacle* convex, paleaceous; scales lanceolate, acuminate, scabrous, as long as the corolla.

Grows in dry rich soils.

Flowers August—September.

MARSHALLIA. Gen. Pl. 1762.

Involucrum imbricatum. *Pappus* paleis 5, membranaceis, enervibus. *Receptaculum* paleaceum.

Involucrum imbricate. *Pappus* composed of 5, membranaceous, nerveless leaves. *Receptacle* chaffy.

1. Lanceolata. Mich.

M. caule simplici, inferne folioso, superne nudato; foliis radicalibus obovatis, caulinis longo-lanceolatis; involucri foliolis ovalibus; paleis spathulatis.

Stem simple, leafy below, naked near the summit; leaves of the root obovate, of the stem long, lanceolate; scales of the involucrum oval; chaff spathulate.

Pursh, 2. p. 519. Nutt. 2. p. 140.
Persoonia Lanceolata. Mich. 2. p. 105.
Athanasia Obovata. Walt. p. 201.

Root perennial. *Stem* eighteen to twenty-four inches high, striate, simple, a little pubescent near the summit. Lower *leaves* obovate, those of the stem lanceolate, all nerved, glabrous, entire, thin, with the base long, tapering, finally dilated and semiamplexicaule. *Flowers* in a terminal head. *Involucrum* many leaved, containing many flowers; leaflets oblong, oval, generally obtuse, with the margins membranaceous, erect. *Corolla* tubular, pale purple, covered externally as in all of this genus that I have seen, with a glandular pubescence. *Stamens* nearly as long as the corolla. *Style* exserted. *Stigmas* filiform, glandular, revolute. *Seeds* angular, inversely conic, striate. *Pappus* composed of five membranaceous, ovate, acuminate, lacerate, short scales. *Receptacle* flat, paleaceous, the paleæ leaf-like, shorter than the corolla, linear, a little dilated at the summit.

Grows in the upper districts of Carolina and Georgia.
Flowers April—May.

2. LATIFOLIA. Mich.

M. caule simplici; foliis lanceolato-ovalibus, acuminatis, trinervibus, infimis vaginantibus; involucri foliolis acutis; paleis angusto-linearibus.

Stem simple; leaves oblong lanceolate, acuminate, three nerved, the lowest sheathing; scales of the involucrum acute; chaff of the receptacle narrow linear.

Pursh, 2. p. 519. Nutt. 2. p. 140.
Persoonia Latifolia. Mich. 2. p. 105.
Athanasia Trinervia. Walt. p. 201.

This species I have not seen.
Grows in the mountains of Carolina. Mich.
Flowers.

3. ANGUSTIFOLIA.

M. caule ramoso; foliis inferioribus angusto-lanceolatis, superioribus linearibus; involucri foliolis rigidis, subulatis; paleis linearibus.

Stem branching; lower leaves narrow lanceolate, the upper linear; scales of the involucrum rigid, subulate; chaff linear.

Pursh, 2. p. 520. Nutt. 2. p. 140.
Persoonia Angustifolia. Mich. 2. p. 106.

Athanasia Gramnifolia ? Walt. p. 200.

Root perennial. *Stem* about two feet high, angular, glabrous, branching and a little pubescent at the summit of the branches. *Leaves* long and very narrow, obscurely three-nerved, glabrous. *Flowers* in solitary terminal heads. *Involucrum* many leaved, containing many flowers; leaves subulate, pubescent, acute. *Corolla* longer than the involucrum, pale purple, externally villous. *Seeds* angular, villous along the angles. *Pappus* composed of five ovate, mucronate, lacerate scales, in which the midrib though transparent, is distinctly visible. *Receptacle* paleaceous, paleæ linear.

Var. *a.* Cyananthera. *Stem* simple, angular, furrowed, very pubescent near the summit. *Leaves* linear-lanceolate, conspicuously three-nerved. *Flowers* in a terminal head. *Scales* of the involucrum lanceolate, slightly acuminate, pubescent. *Corolla* pale purple, externally villous. *Anthers* as long as the corolla, bright sky blue. *Seeds* hairy. *Pappus* acuminate, mucronate, lacerate. *Paleæ* of the receptacle linear.

Grows in the pine barrens in the middle country of Carolina and Georgia. The variety *a.* perhaps a distinct species, was collected by Dr. Baldwin, near St. Mary's, Georgia.

Flowers.

SYNGENESIA SUPERFLUA.

** Floribus discoideis, radiis nullis.*

** Florets discoid, those of the ray obsolete.*

ARTEMISIA. Gen. Pl.

Involucrum imbricatum, squamis rotundatis, conniventibus. *Corollulæ* radii nullæ. *Pappus* nullus. *Receptaculum* subvillosum vel nudiusculum.

Involucrum imbricate, scales round, connivent. *Florets* of the ray 0. *Pappus* 0. *Receptacle* naked, or slightly villous.

1. CAUDATA.

A. erecta, glabra; foliis subsetaceo-pinnatifidis, laciniis convexis; ramulis confertis; paniculis terminalibus, longissimis, strictis; capitulis pedicellatis, globoso-ovatis.	Erect, glabrous; leaves nearly setaceous, pinnatifid, the segments convex, branches crowded; panicle terminal, very long, straight; heads pedicellate, ovate, nearly globose.

Mich. 2. p. 129. Pursh, 2. p. 522. Nutt. 2. p. 144.

Stem simple and herbaceous, two to six feet high. Radical and lower cauline *leaves* pseudobipinnate, pubescent; upper pseudopinnate, segments subsetaceous, alternate, divaricate, somewhat convex. *Flowers* pedicellate, erect, globose, ovate, densely and pyramidally paniculate. Nutt.

Grows in Greenville district.

Flowers.

BACCHARIS. GEN. PL. 1285.

Involucrum imbricatum. *Receptaculum* nudum. *Flosculi* tubulosi, dioici. *Masculi* *antheris* exsertis, basi muticis; pappo subpenicillato. *Foeminei* filiformes; pappo capillari.	*Involucrum* imbricate. *Receptacle* naked. *Florets* tubular, dioicious; *Masc:* with *anthers* exserted, unawned at base, pappus slightly feathered. *Foem.* filiform, pappus capillary.

1. ANGUSTIFOLIA. Mich.

B. glaberrima; foliis linearibus, integerrimis; panicula composita, multiflora.	Very glabrous; leaves linear, very entire; panicle compound, many flowered.

Mich. 2. p. 125. Pursh, 2. p. 523.

A shrub eight to ten feet high, erect, branching, with the young branches angled, dotted. *Leaves* alternate, sessile, linear, very acute, obscurely three-nerved, sometimes sparingly toothed. *Flowers* in a terminal compound panicle; heads generally axillary, solitary, sometimes clustered near the summit of the stem. *Involucrum* many leaved, imbricate, slightly ventricose; leaflets ovate, lanceolate, acute, appressed, glabrous. Sterile florets tubular, white, five-cleft; *anthers* erect, with summits connivent; *style* short, undivided; the seed abortive, crowned with a very short scabrous pappus. Fertile florets tubular, five-toothed; *stamens* none; *style* longer than the corolla, two-cleft; *stigma* simple; *seeds* cylindric, glabrous, striate, crowned with a hairy pappus longer than the corolla; *receptacle* flat, naked, dotted.

Grows in saline soils, generally along the inner margins of the Sea-Islands.

Flowers September—October.

2. Halimifolia.

B. foliis obovatis ovalibusque, superne inciso dentatis; panicula composita, foliosa; capitulis pedunculatis.	Leaves obovate and oval, notched and toothed near the summit; panicle compound, leafy; heads on peduncles.

Sp. pl. 3. p. 1915. Walt. p. 203. Mich. 2. p. 125. Pursh, 2. p. 523.

A shrub six to twelve feet high, with the branches nearly erect, glabrous and angled towards the summit. *Leaves* alternate, sessile, generally obovate, cuneate and entire near the base, coarsely toothed towards the summit, the upper oval or lanceolate, frequently entire, the whole covered with whitish scales or dust. *Panicle* large, loose, terminal, the heads axillary and terminal, sometimes clustered near the summit of the stem. Partial *peduncle* one to four lines long. *Florets* very similar to those of the preceding species. *Style* of the sterile floret as long as the stamens. *Stigma* capitate, undivided. *Pappus* scabrous, shorter than the corolla. *Style* of the fertile floret scarcely as long as the stamens, two-cleft. *Stigmas* somewhat acute. *Seeds* oblong, striate. *Pappus* hairy, white, twice as long as the corolla.

Very generally diffused over the lower country of Carolina and Georgia, preferring damp stiff clay land, but growing indiscriminately in fresh or brackish soils.

Flowers September—October.

3. Sessiliflora. Mich.

B. foliis lævibus, cuneato-obovatis, superne dentatis, capitulis axillaribus, sessilibus, subremotis; involucri squamis superne rufis.

Leaves smooth, cuneate obovate, toothed near the summit; heads axillary, sessile, scattered; scales of the involucrum rufous at the summit.

Mich. 2. p. 135.
B. Glomeruliflora. Pursh, 2. p. 523. Nutt. 2. p. 145.

A shrub three to five feet high, with the branches erect, virgate, angled, and very glabrous. *Leaves* alternate, subsessile, acutely toothed towards the summit, glabrous, pale green. Heads of flowers sessile, axillary, much more scattered than in the preceding species. *Scales* of the involucrum somewhat obtuse. *Pappus* of the sterile florets short, of the fertile very long.

Grows in damp pine barrens, along the sea coast of Carolina, but never I believe in brackish soils.

Flowers, September—November.

CONYZA. Gen. Pl. 1280.

Involucrum imbricatum, squamis appressis. *Corollulæ* fœmineæ plurimæ in ambitu, hermaphroditæ steriles in centro. *Semina* pilosa. *Pappus* pilosus. *Receptaculum* nudum.

Involucrum imbricate, the scales appressed. Female *florets* numerous in the circumference; herm. in the centre, sterile. *Seed* hairy. *Pappus* hairy. *Receptacle* naked.

1. Marylandica.

C. herbacea, pubescens; foliis sessilibus, lato lanceolatis, acutis, serratis; corymbis terminalibus, fastigiatis, coarctatis, subaphyllis;

Herbaceous, pubescent; leaves sessile, broad, lanceolate, acute, serrate; corymbs terminal, fastigiate, clustered, nearly leaf-

involucri squamis subulato mucronatis, flosculis brevioribus.	less; scales of the involucrum subulate, mucronate, shorter than the florets.

Mich. 2. p. 126. Pursh, 2. p. 523. Nutt. 2. p. 145.
Baccharis Fœtida. Walt. p. 202. Sp. pl. 3. p. 1918.

Root annual? *Stem* erect, three to five feet high, branching towards the summit, branches angled, somewhat viscid. *Leaves* alternate, sessile, large lanceolate, acute at each end, serrate, pubescent. *Flowers* in axillary and terminal corymbs, female florets in the circumference of each capitulum, very numerous, hermaphrodite in the centre few, rarely exceeding five, all purple. *Involucrum* many leaved, (sixteen to twenty,) imbricate; leaflets ovate, acute, pubescent, with the margins membranaceous. Female florets with the corolla slender, tubular, minutely five-toothed. *Stamens* none. *Style* longer than the corolla, two-cleft; germ oblong; seed oblong, cylindrical, pubescent. *Pappus* hairy. Hermaphrodite florets funnel shaped, with the border five-cleft, somewhat expanding. *Stamens* longer than the corolla, purple. *Germ* very short, thick. *Style* as long as the stamens, two-cleft. *Seed* probably abortive. *Receptacle* naked, slightly convex, dotted.

This species, and those that are strictly allied to it, are remarkable for the strong and to most persons disagreeable aroma, which is emitted from every part of the plant when bruised.

Grows very abundantly in ditches and damp places, both in brackish and in fresh soils.

Flowers August—September.

2. Camphorata.

C. herbacea, subpubescens; foliis petiolatis, ovato-lanceolatis, acutissimis, subrepando denticulatis; corymbis terminalibus et axillaribus, folio brevioribus; involucri squamis acutis, flosculos subæquantibus.	Herbaceous, slightly pubescent; leaves on petioles, ovate-lanceolate, very acute, denticulate; corymbs terminal and axillary, shorter than the leaves; scales of the involucrum acute, as long as the florets.

Pursh, 2. p. 523. Nutt. 2. p. 145.
Erigeron Camphoratum. Sp. pl. 3. p. 1960.

Stem about three feet high, pubescent. *Leaves* nearly sessile, generally ovate-lanceolate, acutely denticulate, finely pubescent. *Flowers* in small axillary and terminal leafy corymbs. *Involucrum* many leaved, imbricate, leaves very pubescent, almost tomentose, rather longer than the florets. *Florets* in this species very similar in arrangement and structure to the preceding; female florets very slender, the hermaphrodite comparatively large, with a short pappus.

Grows along the margins of rivers and swamps in South-Carolina and Georgia. Pursh. I have not observed this species in the low country of Carolina, it grows probably in the middle or upper country. My specimens are from Pennsylvania.

Flowers August—September.

3. BIFRONS.

C. herbacea, sub glutinosa; foliis ovali-lanceolatis, serratis, cordatis, amplexicaulibus; corymbis confertifloris.

Herbaceous, somewhat glutinous; leaves oval-lanceolate, serrate, cordate, amplexicaule; corymbs densely flowered.

Sp. pl. 3. p. 1920. Pursh, 2. p. 524. Nutt. 2. p. 145.
Conyza Amplexicaulis. Mich. 2. p. 126.
Baccharis Viscosa. Walt. p. 202.

Root perennial. *Stem* erect, two to three feet high, branching towards the summit, very pubescent, slightly viscid. *Leaves* alternate, oblong, acute, amplexicaule, like the stem very pubescent, viscid, and sprinkled with glandular dots, sometimes ferruginous underneath. *Flowers* in compact, fastigiate corymbs. Female florets in the circumference of each capitulum, hermaphrodite florets few in the centre, all purple. *Involucrum* imbricate, leaflets subulate, somewhat villous externally, sprinkled with glands. *Florets* exactly similar to those of the preceding species.

This plant exhibits frequently a remarkable phenomenon. In every clear frosty morning, during the winter, crystalline fibres nearly an inch in length, shoot out in every direction from the base of the stem. It would appear as if the remnant of the sap or water, absorbed by the decayed stem, had congealed, and had burst in this manner through the pores of the bark. Does this proceed from any essential quality of the plant, or from its structure?

Grows in wet soils, ditches and around ponds.

Flowers July—September.*

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* The three preceding species are strictly congeners. They differ in several respects from the type of the genus Conyza, and with such species as shall be found truly allied to them, should form a sub-genus at least in this family; to which may be given with some slight variation the character I have inserted at the head of this genus.

Leptogyne. *Involucrum* imbricatum, squamis appressis. *Corollulæ* foem. plurimæ in ambitu, graciles, 5-dentatæ; herm. steriles? in centro, inpendibuliformes, 5-fidæ. *Semina* cylindrica, pubescentia. *Pappus* pilosus. *Receptaculum* nudum.

This however will be found to approach very near to the reformed character which R. Brown proposes for the Gnaphalium.

4. Sinuata. E.

C. pilosa, scabriuscula; foliis inferioribus sinuatis, lobis ovalibus, acutis, superioribus linearibus, integerrimis; floribus paniculatis. E.

Hairy, somewhat scabrous; lower leaves sinuate, the lobes oval, acute, the upper linear, entire; flowers in panicles.

Root annual? *Stem* about two feet high, branching. Lower *leaves* two to four inches long, oblong, lanceolate, deeply sinuate. *Flowers* in an oblong terminal panicle, female florets in the circumference, hermaphrodite in the centre, all white. *Involucrum* many leaved, imbricate; leaflets linear, lanceolate or subulate, appressed; female florets a little longer than the involucrum, very slender, with the border slightly three-cleft. *Stamens* none. *Style* setaceous. *Stigma* simple. Hermaphrodite florets with the corolla shorter than the female, border five-cleft. *Anthers* as long as the corolla. *Style* as long as the stamens, two-cleft. *Stigmas* glandular, obtuse, erect. *Seeds* all fertile, oblong, angled, hairy. *Receptacle* naked, convex, dotted.

This plant, which scarcely appears to be a native, has all the artificial and essential characters of the Conyza, with the habit and appearance of an Erigeron.

Grows around Charleston—very common.

Flowers April—July.

PTEROCAULON. E.

Involucrum imbricatum, squamis tomentosis, sub scariosis? appressis. *Corollulæ* foem. et herm. immixtæ; foem. graciles limbo sub 3 dentatæ; herm. limbo 5 fido. *Semina* angulata, piloso. *Pappus* pilosus, scaber. *Receptaculum* nudum.

Involucrum imbricate, the scales tomentose, slightly scarious, appressed. Foem. and herm. *florets* intermingled; the female slender, with the border 3 toothed; herm. with the border 5 cleft. *Seeds* angled, hairy. *Pappus* hairy, scabrous. *Receptacle* naked.

1. Pycnostachyum. Mich.

P. caule alato; foliis lanceolatis, sub undulatis, denticulatis, subtus albo-tomentosis; spica cylindrica, densiflora.	Stem winged; leaves lanceolate, slightly undulate, toothed, tomentose and white underneath; spike cylindrical, flowers clustered.

Conyza Pycnostachya. Mich. 2. p. 126. Pursh, 2. p. 524. Nutt. 2. p. 145.
Gnaphalium Undulatum. Walt. p. 203.

Root tuberous, somewhat fusiform, perennial. *Stem* about two feet high, erect, simple, and with the under side of the leaves, and calyx densely tomentose and white. *Leaves* sessile, lanceolate, widely decurrent, so as to render the stem conspicuously winged. *Flowers* in a compact sometimes compound spike; female and hermaphrodite flowers promiscuously mingled in each capitulum, all white. *Involucrum* imbricate, leaflets somewhat obovate, acute, appearing to be scarious on the inner surface, densely tomentose without; female florets slender, three-cleft; stamens none; style longer than the corolla, two-cleft, stigmas acute; hermaphrodite florets with the corolla deeply five-cleft; anthers very short; style shorter than the corolla, two-cleft; stigmas glandular, white. *Seed* angled, pubescent. *Receptacle* naked, flat.

This plant, as remarked by Michaux, should form an intermediate genus between Conyza and Gnaphalium, but it is in habit and appearance, much more nearly allied to the latter than the former; many species in the last section of Conyza in Wildenow, perhaps belong to this genus. The seeds of the hermaphrodite florets are probably sterile. They are certainly much shorter than the others. The root under the popular denomination of Black Root is much used in some parts of the country as an alterative and as a cleanser of old ulcers.

Grows in dry sandy soils.

Flowers May—August.

GNAPHALIUM. Gen. Pl. 1282.

Involucrum imbricatum, squamis oblongis, scariosis, coloratis. *Corollulæ* foem. et herm. immixtæ. *Semina* glabra. *Pappus* pilosus. *Receptaculum* nudum.	*Involucrum* imbricate, scales oblong, scarious, coloured. *Florets* fem. and herm. intermingled. *Seeds* glabrous. *Pappus* hairy. *Receptacle* naked.

1. POLYCEPHALUM.

G. herbaceum, erectum; foliis lineari-lanceolatis acutis, supra glabris, subtus pubescentibus; caule paniculato, tomentoso; corymbis terminalibus, coarctatis.

Herbaceous, erect; leaves linear-lanceolate, acute, glabrous on the upper surface, pubescent underneath; stem paniculate, tomentose; corymbs terminal, clustered.

Mich. 2. p. 127. Pursh, 2. p. 524.
G. Obtusifolium. Sp. pl. 3. p. 1880. Walt. p. 203.

Root annual? *Stem* one to two feet high, branching near the summit, covered with a white tomentum. *Leaves* alternate, sessile, linear-lanceolate, nearly acute, entire, slightly undulate, nearly glabrous on the upper surface, tomentose, white underneath. *Flowers* in large terminal corymbs, composed of heads aggregated in small clusters. *Involucrum* imbricate, conical, leaflets oblong, white, tomentose at base; female florets slender, yellowish in the border, five toothed, stamens none, style longer than the corolla; hermaphrodite florets with the corolla funnel shaped, yellowish, the border five-cleft, stamens as long as the corolla. *Seeds* cylindrical, glabrous. *Pappus* hairy, as long as the corolla. *Receptacle* naked, flat, dotted.
Grows in dry pastures—very common.
Flowers September—October.

2. PURPUREUM.

G. herbaceum; foliis lineari-spathulatis, subtus tomentosis; caule erecto, simplicissimo; floribus sessilibus, glomeratis, terminalibus axillaribusque.

Herbaceous; leaves linear spathulate, tomentose underneath; stem erect, simple; flowers sessile, clustered, axillary and terminal.

Sp. pl. 3. p. 1884. Mich. 2. p. 127. Pursh, 2. p. 525.
Gnaphalium Hyemale. Walt. p. 203.

Root perennial, stoloniferous. *Stem* erect and assurgent, simple, tomentose and white, twelve to eighteen inches high. *Leaves* sessile, oblong, obovate, slightly mucronate, entire, undulate, obscurely triplinerved, tomentose, particularly on the lower surface, which, like the stem, is white. *Flowers* in compact, axillary, sessile clusters. *Involucrum* imbricate, leaflets oblong, ovate, scarious, glabrous, appressed, the inner ones tinged with purple. Female florets numerous; *corolla*, if any, closely adhering to the style; stamens none; style two-cleft; stigma short, obtuse; hermaphrodite florets small, with the border five-cleft, purple. *Style* as long as the corolla. *Stigma* scarcely divided. *Seed* oblong, scabrous. *Pappus* hairy.

Grows in dry pastures—very common.
Flowers March—May.

* *Floribus dioicis.* | * *Flowers dioecious.*

Antennaria. Gœrtner. R. Brown.

3. MARGARITACEUM.

G. herbaceum; foliis lineari-lanceolatis, sensim angustatis, acutis; caule superne ramoso, corymbo fastigiato; floribus pedicellatis.	**Herbaceous; leaves linear-lanceolate, tapering, acute; stem branching near the summit; corymb fastigiate, flowers on pedicels.**

Willd. Sp. pl. 3. p. 1881. Walt. p. 203. Mich. 2. p. 127. Pursh, 2. p. 524.

Root perennial. *Stem* one to two feet high, branching towards the summit, clothed with a thick tomentum. *Leaves* linear-lanceolate, entire, tomentose, hoary underneath. *Flowers* in large terminal corymbs. *Involucrum* many leaved, imbricate, scales ovate, obtuse, slightly plaited, of a snowy whiteness; male florets with the corolla five-cleft, yellowish, stamens nearly as long as the corolla, (Anthers with two bristles at base, *Brown*,) seed abortive, pappus scabrous, a little thickened at the summit; female florets with the corolla very slender, stamens none, style two-cleft, stigma simple. *Seed* oblong, a little scabrous, pappus pilose.

I give the habitat with some hesitation. But among my specimens I found one put away for examination in the manner I have usually put specimens received from some of my domestic correspondents; in this instance, however, without a note or label. On examination it proved to be a male plant of this species, justifying Mr. Brown's observations on its dioecious character. (Trans. Lin. Soc. vol. 12. p. 123.) The specimens in my herbarium from the Northern States are female.

Grows in the mountains of Carolina and Georgia.
Flowers August—September.

4. PLANTAGINEUM.

G. sarmentis procumbentibus; caule simplici; foliis radicalibus ovatis, nervosis; corymbo coarctato; floribus dioicis; involucri squamis interioribus elongatis, obtusis, coloratis.	Suckers procumbent; stem simple; leaves of the root ovate, nervose; corymb clustered, flowers dioecious; interior scales of the involucrum long, obtuse, coloured.

Sp. pl. 3. p. 1882. Walt. p. 203. Pursh, 2. p. 525. Nutt. 2. p. 146.
G. Dioicum. var. Plantaginifolium. Mich. 2. p. 128.

Root perennial, stoloniferous. *Stem* scarcely a foot in height, simple, tomentose, white. *Leaves* of the root wide, spathulate, oval or acute, entire, three-nerved, tomentose, white on the under surface; of the stem spathulate, lanceolate, sometimes oval or obovate, frequently hoary on both surfaces. *Flowers* in small terminal corymbs. *Involucrum* imbricate, the interior scales long, very white, sometimes nearly acute. Female florets very slender; *style* two-cleft; *pappus* hairy, longer than the corolla.

Grows in woods and on sunny hills. Pursh.

Flowers May—July. Pursh.

* * *Radiati.*	* * *Florets of the ray generally present.*

SENECIO. GEN. PL. 1290.

Involucrum cylindricum, basi calyculatum; squamis apice sphacelatis. *Pappus* simplex. *Receptaculum* nudum.	*Involucrum* cylindrical, calyculate at base, the scales sphacelate at the summit. *Pappus* simple. *Receptacle* naked.
* *Floribus flosculosis; radiis nullis.*	* *Florets tubular; those of the ray wanting.*

1. Hieracifolius.

S. caule virgatim-paniculato; foliis oblongis amplexicaulibus, inæqualiter profunde dentatis incisisque; involucris lævibus.

Stem virgate, paniculate; leaves oblong, amplexicaule, unequally and deeply toothed and notched; involucrum smooth.

Sp. pl. 3. p. 1974. Mich. 2. p. 119. Pursh, 2. p. 529. Nutt. 2. p. 165. Cineraria Canadensis. Walt. p. 207?

Annual. *Stem* four to eight feet high, a little hairy and scabrous, succulent, branching towards the summit. *Leaves* alternate, sessile, oblong, deeply notched, almost pinnatifid, the lobes all acute, pubescent, a little scabrous, hairy along the midrib; panicle compound, terminal, the branches strait, numerous. *Involucrum* ventricose; leaves equal, glabrous, acute; leaflets at base setaceous, irregularly disposed. *Florets* of the ray none; of the disk, tubular, numerous, white. *Anthers* a little longer than the corolla, purplish. *Style* longer than the stamens, two-cleft; *stigmas* reflected. *Seeds* cylindric, a little hairy. *Pappus* setaceous. *Receptacle* naked, dotted.

The *involucrum* in this species appears to be monophyllous, deeply divided.

Grows in rich damp soils.

Flowers June—September.

2. Suaveolens.

S. caule herbaceo; foliis petiolatis, hastato-sagittatis, serratis, glabris, concoloribus; floribus corymbosis, erectis; involucris multifloris.

Stem herbaceous; leaves on petioles, hastate, sagittate, serrate, glabrous, uniformly coloured; flowers in corymbs, erect; involucrum many flowered.

Cacalia Suaveolens. Sp. pl. 3. p. 1734. Walt. p. 195. Mich. 2. p. 96. Pursh, 2. p. 518. Nutt. 2. p. 138.

Root perennial. *Stem* three to five feet high, like the whole plant glabrous. *Leaves* hastate, ovate, acutely and irregularly serrate, mucronate, supported on winged petioles one to two inches long. *Involucrum* many leaved; leaves linear-lanceolate, acute, a little pubescent at the summit, surrounded at base, by small subulate or setaceous leaves, irregularly disposed. *Florets* of the disk very numerous, tubular, yellowish white, somewhat globular at base. *Anthers* longer than the corolla, with the terminal appendixes deeply separated, acute. *Style* two-cleft. *Seed* oblong, striate. *Pappus* simple, hairy under a lens, a little scabrous. *Receptacle* naked.

Grows in damp rich soils in the middle and upper districts of Carolina and Georgia.

Flowers August—October.

3. TOMENTOSUS. Mich.

S. incano-lanosus; caule simplici; foliis petiolatis, ovali lanceolatis, serrulatis; corymbo subumbellato.	Hoary and woolly; stem simple; leaves on petioles, oval lanceolate, serrulate; corymb somewhat umbelliform.

Mich. 2. p. 119.

Root perennial. *Stem* about two feet high, covered like the whole plant with a white cottony tomentum, which seems rather adhering to the surface of the plant, than growing out of it. *Leaves* of the root oblong, oval, generally obtuse, finely serrulate or crenulate, supported by petioles three to six inches long; leaves of the stem smaller, oblong, more or less dissected. *Flowers* in a small terminal umbel. *Involucrum* many leaved, the leaves equal, linear-lanceolate, very woolly at base. *Florets* of the ray, twelve to fifteen, the ligules lanceolate, nerved, slightly three toothed; of the disk numerous. *Stamens* as long as the tubular florets. *Seed* pubescent? *Pappus* simple, setaceous, similar on all the florets.

This plant has great resemblance, in size, and outlines, to the S. Balsamitæ; besides, however, its woolly surface, its leaves are much more slightly serrate, and the florets of the ray not distinctly three-notched as in that species.

Grows near the Flat Rock not far from Camden. Mich. Found by Mr. Whitlow in the middle country of Carolina.

Flowers April—May.

4. OBOVATUS.

S. foliis radicalibus obovatis, crenato serratis, petiolatis, caulinis pinnatifidis; floribus subumbellatis, longe pedunculatis; caule glabriusculo.	Leaves of the root obovate, crenate or serrate, on petioles, of the stem pinnatifid; flowers somewhat umbellate, on long peduncles; stem nearly smooth.

Willd. Sp. pl. 3. p. 1999. Pursh, 2. p. 530. Nutt. 2. p. 165.

Root perennial. *Stem* twelve to eighteen inches high, simple, glabrous. *Leaves* of the root obovate, sometimes nearly round, crenate, glabrous, with an attenuated base about an inch long; leaves of the stem sessile, small, pinnatifid, a little woolly at the base. *Flowers* in small terminal panicles. *Involucrum* simple, many leaved; leaves linear-lanceolate, glabrous, with one or two small subulate leaves at base; florets of the ray ten to twelve, yellow; florets of the disk numerous. *Stamens* as long as the corolla. *Seed* oblong, striate. *Pappus* simple, hairy, white.

In the specimens which I have from this State, the leaves are more orbicular, thicker, and the flowers larger than those from Pennsylvania; perhaps they form distinct species.

Grows near Vance's ferry, on the Santee river.

Flowers.

5. BALSAMITÆ.

S. foliis radicalibus oblongis, serratis, petiolatis, caulinis inferioribus lyrato-pinnatifidis, serratis, summis pinnatifidis, dentatis; floribus subumbellatis; caule pedunculisque basi villosis.	Leaves of the root oblong, serrate, on petioles, of the stem, the lower lyrate pinnatifid, serrate, the highest pinnatifid, toothed; flowers somewhat umbellate; stem and peduncles villous at base.

Sp. pl. 3. p. 1999. Pursh, 2. p. 530.

Root perennial. *Stem* one to two feet high, glabrous except at the origin of the leaves, simple, slender. *Leaves* of the root oblong, oval or ovate, serrate and crenate, glabrous, supported on petioles four to six inches long, a little woolly at the base; leaves of the stem incised, pinnatifid, toothed. *Flowers* in small terminal umbels. *Involucrum* simple, many leaved; leaflets linear-lanceolate, membranaceous along the margin, with one or two small setaceous leaves at base; florets of the ray ten to twelve, linear-lanceolate, deeply three-cleft, differing in this respect from all the other species of this genus in my collection; florets of the disk numerous. *Stamens* about as long as the corolla. *Seeds* naked, striate. *Pappus* setaceous, white, similar on all the florets.

Grows in damp pine barrens. Dr. M‘Bride.

Flowers April—May.

6. AUREUS.

S. foliis radicalibus ovatis, cordatis, serratis, petiolatis, caulinis pinnatifidis dentatis, lacinia terminali lanceolata; pedunculis subumbellatis, incrassatis.

Leaves of the root ovate, cordate, serrate, on petioles, of the stem pinnatifid, toothed, the terminal segment lanceolate; peduncles thickened; flowers somewhat umbellate.

Sp. pl. 3. p. 1998. Mich. 2. p. 120. Pursh, 2. p. 530. Nutt. 2. p. 165.

Root perennial. *Stem* about two feet high, slender, glabrous, excepting near the root. *Leaves* of the root cordate, oval, sometimes nearly round, crenate, glabrous, supported on petioles about six inches long; lower leaves of the stem small, nearly round, on petioles scarcely an inch long, the upper sessile, amplexicaule, pinnatifid. *Flowers* in a simple, terminal umbel. *Involucrum* with only one or two small leaves at base. *Florets* of the ray yellow. *Seed* glabrous, striate. *Pappus* setaceous, similar in all the florets.

I have a specimen sent me from Pennsylvania by Dr. Muhlenburg, under the name of S. Aureus, which appears to agree exactly with the S. Cymbalaria, of Pursh, excepting that its flowers are in a small umbel.

Grows in the mountains of Carolina. Mich.

Flowers June—July. Pursh.

7. FASTIGIATUS. Schweinitz.

S. foliis radicalibus oblongis, cordato ovatis, crenato dentatis, glabris, caulinis, pinnatifidis, pinnis dentatis, incisisque; floribus subumbellatis, pedunculis involucroque glabris. E.

Leaves of the root oblong, cordate ovate, crenately toothed, glabrous, of the stem pinnatifid, the segments toothed and notched; flowers somewhat umbellate, the peduncles and involucrum glabrous.

Plant two to three feet high, and glabrous excepting sometimes the base of the stem, very similar in many respects to the preceding species, but generally larger. *Root* leaves oblong, ovate, and almost acute, deeply cordate, and supported by petioles six inches long; stem leaves two to four inches long, deeply pinnatifid, with the terminal segment ovate, and irregularly notched. *Involucrum* as in most of our species appearing to be one-leaved, deeply divided with one or two small scales at base, the segments or leaflets subulate, florets of the ray yellow, larger than those of S. Aureus. *Seed* oblong, striate. *Pappus* setaceous, very white, and very abundant, so that the heads when the seeds are mature, resemble small balls of cotton.

Sent me under this name from Salem, North-Carolina. I have specimens from the middle country of South-Carolina, which, though wanting root leaves, appear to belong to this species.

Flowers.

8. LOBATUS. Persoon.

S. glaber; foliis pinnatifido-lyratis; lobis rotundatis subrepandis; corymbo composito, pedunculis summis subumbellatis.

Glabrous; leaves pinnatifid, lyrate, lobes round and slightly repand; corymb compound, the highest peduncles somewhat umbellate.

Persoon, 2. p. 436. Nutt. 2. p. 165.
S. Lyratus. Mich. 2. p. 120.

Annual. *Stem* erect, one to three feet high, angled, glabrous, fistulous, succulent, with the epidermis adhering only at the angles. *Leaves* sessile, pinnatifid, with the lobes spathulate and round, coarsely toothed, glabrous. *Flowers* in a large panicle, composed of many small umbels. *Involucrum* with one or two small scales at base, the leaflets linear, acute, succulent; florets of the ray about twelve, yellow, the ligules lanceolate, sometimes obovate, three toothed at the summit; the florets of the disk membranaceous. *Stamens* as long as the florets of the disk. *Style* a little longer than the stamens, two-cleft at the summit. *Stigmas* nearly globular. *Seed* oblong, striate. *Pappus* setaceous, very white. *Receptacle* naked.

Grows in damp soils, not absolutely inundated; rice fields when in good order are literally covered with this weed in the spring of the year, which to the planters is generally known by the name of butter weed.

Flowers January to May and sometimes in October.

ARNICA. GEN. PL. 1296.

Involucrum foliolis æqualibus. *Corollulæ* radii sæpius filamentis

Involucrum with the leaflets equal. *Florets* of the ray often with

5, absque antheris. *Pappus* simplex. *Receptaculum* nudum.

five filaments without anthers. *Pappus* simple. *Receptacle* naked.

1. NUDICAULIS. Mich.

A. hirsuta; foliis radicalibus decussatim oppositis lato lanceolatis, nervosis, denticulatis; caule sub aphyllo, summitate in pedunculos 1-floros diviso.

Hirsute; leaves of the root opposite, decussate, broad, lanceolate, nerved, toothed; stem almost leafless near the summit, divided into a few 1-flowered branches.

Pursh, 2. p. 527. Nutt. 2. p. 164.
Doronicum Nudicaule. Mich. 2. p. 121.
—— acaule. Walt. p. 204?

Root perennial. *Stem* two to three feet high, simple, hirsute, somewhat viscid. *Leaves* of the root large, sessile, expanding, somewhat viscid; strongly nerved; of the stem one or two pair small, opposite, ovate, sessile, the smaller ones alternate, one at the base of each peduncle. *Involucrum* with the leaves arranged in a single series, hirsute, lanceolate. *Florets* of the ray twelve to fifteen; of the disk numerous, all yellow. *Anthers* as long as the florets of the disk. *Style* a little longer, two-cleft. *Seed* slightly obovate, naked, finely striate. *Pappus* simple, hairy, similar on all of the seeds.

In this species I have not seen any trace of filaments in the florets of the ray.

Grows in damp pine barrens.

Flowers April—May.

CHRYSOPSIS. Nutt. GEN. 2. p. 150.

Involucrum imbricatum. *Antheræ* basi nudæ. *Pappus* duplex, exterior paleaceus, parvus; interior pilosus scaber. *Semina* obovata, villosa. *Receptaculum* nudum.

Involucrum imbricate. *Anthers* naked at base. *Pappus* double, the exterior chaffy, small, interior hairy, scabrous. *Seed* obovate, villous. *Receptacle* naked.

** Floribus sub corymbosis.*	** Flowers generally corymbose.*

1. ARGENTEA. Persoon.

C. sericea; foliis lanceolato - linearibus, erectis, acutis, integerrimis; corymbo sub paniculato; involucris pubescentibus; caule superne subnudo.	Silky; leaves lanceolate, linear, erect, acute, entire; corymb somewhat paniculate; involucrum pubescent; stem nearly naked towards the summit.

Inula Argentea. Pursh, 2. p. 532. Nutt. 2. p. 151.

Root perennial. *Stem* about two feet high, branching towards the summit. *Leaves* long, (those of the root ten to twelve inches,) nearly linear, somewhat rigid, entirely covered as well as the stem with long silken hairs, longitudinally appressed to their surface. *Flowers* in an irregular terminal corymb. *Involucrum* imbricate; leaves subulate, acute, pubescent, and in the specimen now before me, more covered with glands than those of the succeeding species. *Florets* of the ray ten to twelve; of the disk numerous, all yellow. *Seeds* oblong, villous or hispid. *Pappus* of both florets similar, the exterior subulate, resembling the interior in colour; interior very scabrous, light brown.

Grows in dry soils.

Flowers July—October.

2. GRAMINIFOLIA. Mich.

C. sericea, foliis lanceolato-linearibus, acutis, integerrimis, nervosis; corymbis compositis; caule superne foliaceo.	Silky; leaves lanceolate linear, acute, entire, nerved; corymbs compound; stem leafy towards the summit.

Inula Graminifolia. Mich. 2. p. 122. Pursh, 2. p. 532. Nutt. 2. p. 151.
Erigeron Nervosum. Sp. pl. 3. p. 1953.

Root perennial. *Stem* about two feet high. *Leaves* long, linear, entire, distinctly nerved, covered as well as the stem with a pubescence exactly similar to that of the preceding species; corymb compound, sometimes containing many heads. *Florets* of the ray, ten to twelve; of the disk numerous, all yellow. *Stamens* naked at base, as long as the corolla (of the disk,) at first yellow, afterwards white. *Stigmas* nearly acute. *Seed* and *Pappus* exactly similar to those of the preceding species; the pappus, however, is less coloured.

These two species are probably distinct, yet they are so nearly allied that it is not easy to point out their specific distinction. I have never seen an individual of either species without glands on the leaves of the involucrum. The one which I have seen most nearly naked, belonged to this species. Judging from the specimens now before me, I should say that the leaves of the C. Argentea are narrower, thicker, and the nerves so close as not to be very distinct, that the flowers, and consequently the seed are much larger, and the stem nearly naked towards the summit. In the C. Graminifolia the leaves are conspicuously nerved, the corymbs generally more compact, and the heads more numerous.

Grows in dry sandy soils.

Flowers July—October.

3. PINIFOLIA. E.

C. glaberrima; caule rigido; foliis linearibus, confertis, rigidis; corymbo majusculo; involucri squamis apice lanosis. E.	Very glabrous; stem rigid; leaves linear, crowded, rigid; corymb large; scales of the involucrum woolly at the summit.

Root perennial. *Stem* eighteen to twenty-four inches high. *Leaves* very numerous, crowded on the stem, four to six inches long, on the branches small, linear, with the midrib somewhat conspicuous, under a lens finely serrulate. *Corymbs* terminal. *Flowers* nearly as large as in any species of this genus. *Involucrum* imbricate, scales linear-lanceolate, a little woolly near the point. *Florets* of the ray about fifteen, of the disk very numerous, all bright yellow. *Stamens* of the disk longer than the corolla. *Anthers* white, with their projecting summits very conspicuous, lanceolate. *Style* longer than the stamens, two-cleft. *Stigma* glandular. *Seeds* all similar, long, hairy, hispid. The exterior *pappus* subulate, lacerate, whitish, the interior very scabrous, reddish brown. *Receptacle* naked.

Grows on the summits of the sand hills, between the Flint and Chatahoochee rivers.

Flowers September—October.

4. MARIANA.

C. pilosa; foliis oblongo-lanceolatis, serratis, superioribus ses-	Hairy; leaves oblong, lanceolate, serrate, the upper sessile,

sillibus, acutis, inferioribus spathulatis plerumque obtusis; corymbo simplici; involucro viscido pubescente.	acute, the lower spathulate, generally obtuse; corymb simple; involucrum viscidly pubescent.

Nutt. 2. p. 151.
Inula Mariana. Sp. pl. 3. p. 2099. Mich. 2. p. 122. Pursh, 2. p. 531.

Root perennial. *Stem* one to two feet high, simple, sparingly clothed with long lanuginous hair. *Leaves* clothed in a similar manner, particularly on the under surface. *Corymb* composed of a few heads. *Peduncles* and back of the leaves of the involucrum covered with viscid glands. *Involucrum* many leaved, imbricate, leaves linear-lanceolate. *Florets* of the ray sixteen to twenty; of the disk very numerous, all yellow. *Anthers* slightly two-cleft at base, with the terminal appendix lanceolate, white. *Stigmas* glandular. *Seeds* oblong, villous. *Pappus* on all of the florets double, the exterior simple, short, the interior scabrous, not so much coloured as usual in this genus.

Grows in dry sandy soils.

Flowers August—October.

The species which has been sent me from New-Jersey by my much esteemed friend Dr. Torrey, of New-York, as the Inula Falcata of Pursh, is certainly a very distinct species from this. It may be distinguished as C. falcata foliis lineari-lanceolatis, acutis, rigidis, sub falcatis; involucri squamis sub tomentosis. The flowers in my specimens too are smaller than those of the C. Mariana.

5. Trichophylla. Nutt.

C. pilosa; foliis oblongis, obtusis, integerrimis; corymbo simplici; involucri squamis angustissimis, glandulosis.	Hairy; leaves oblong, obtuse, very entire; corymb simple; scales of the involucrum very narrow, glandular.

Nutt. 2. p. 150.

Root perennial. *Stem* twelve to eighteen inches high, sparingly lanuginous. *Leaves* somewhat lanuginous, sessile, generally entire, the lower one attenuated at base. *Corymb* simple, few flowered. *Involucrum* many leaved, imbricate; leaves very narrow, a little glandular, and sometimes hairy. *Florets* of the ray fourteen to sixteen, narrow, and perhaps longer than any other of our species; of the disk numerous, all yellow. *Seeds* oblong, villous, almost hispid. *Pappus* of both florets double, the exterior simple, the interior scabrous, brownish.

Grows in dry soils.
Flowers August—September.

6. GOSSYPINA.

C. lanuginoso-candicans; foliis sessilibus, oblongo - spathulatis, obtusis, integerrimis; corymbo subfastigiato.	Woolly, hoary; leaves sessile, oblong, spathulate, obtuse, very entire; corymb fastigiate.

Mich. 2. p. 122. Pursh, 2. p. 532. Nutt. 2. p. 150.

Root perennial. *Stem* one to two feet high, covered, like the whole plant, except the corolla, with a white lanuginous tomentum. *Leaves* oblong, obtuse, the lower ones obovate, all entire. *Corymbs* simple, few flowered. *Involucrum* many leaved, imbricate; leaves subulate, very woolly. *Florets* of the ray numerous, yellow. *Anthers* scarcely longer than the florets of the disk, white at the summit. *Seed* oblong, viscid, hispid. *Pappus* of all the florets double, the exterior white, finely lacerate, the interior scabrous, brownish.

Grows in high pine lands; common in the middle districts of Georgia.
Flowers August—October.

7. DENTATA. E.

C. lanuginosa; foliis cuneato obovatis, obtusis, sinuato dentatis, superioribus oblongo ovalibus, integris; corymbo simplici. E.	Lanuginous; leaves cuneate, obovate, obtuse, deeply toothed, the upper oblong, oval, entire; corymb simple.

Root perennial. *Stem* about two feet high, covered like the whole plant except the corolla, with a white lanuginous tomentum. Lower *leaves* three to five inches long, with a long tapering entire base, towards the summit coarsely and obtusely toothed; upper leaves numerous, oblong, all sessile and semiamplexicaule. *Flowers* in a simple corymb, leaves subulate, very woolly; florets of the ray numerous, (twenty to twenty-five,) strongly nerved; florets of the disk also very numerous, all yellow. *Stamens* much longer than the florets of the disk, white, with the terminal appendices lanceolate. *Style* longer than the stamens, two-cleft. *Seed* small, oblong, hispid. *Pappus* double in all the florets, the exterior small, lacerate, white, the interior scabrous, reddish brown.

This species has a very close affinity to the preceding, which it resembles entirely in habit and appearance, it differs only in its leaves, which are large and coarsely toothed, and in its seeds, which appear, at least, by my specimens, to be much smaller.

Sent me from Louisville, Georgia, by Mr. Jackson to whom I have been indebted for so many rare species, from the same district of country.

Flowers August—October.

** *Floribus paniculatis.*	** *Flowers paniculate.*

8. DIVARICATA. Nutt.

C. foliis lineari lanceolatis, acutis, serratis, ciliatis, cauleque hispidis; panicula divaricata; pedunculis involucrisque viscido pubescentibus.	Leaves linear-lanceolate, acute, acutely serrate, ciliate, and with the stem hispid; panicle divaricate; peduncles and involucrum viscidly pubescent.

Nutt. 2. p. 152.

Root perennial. Nutt. *Stem* about two feet high, slender, hispid and scabrous, irregularly branching towards the summit. *Leaves* very narrow, the lower ones with long tapering bases, very acutely serrate, hispid and scabrous. *Flowers* in a long scattered panicle. *Involucrum* many leaved, imbricate; scales linear-lanceolate, slightly acuminate, pubescent on the back. *Florets* of the ray not numerous, bright yellow, as in all the species of this genus; of the disk tubular, yellow. *Style* two-cleft. *Seed* oblong, hispid, the interior pappus reddish brown, scabrous, the exterior wanting.

In this species which has long been known to me and which I sent Dr. Muhlenberg many years ago, as the Inula hispida, I have been able to discover no trace of an exterior pappus unless the upper hairs of the seed can be so called.

Grows near Savannah, whence it was first sent me by R. W. Habersham, Esq. I have found it also near the national establishment on the Chatahouchie River.

Flowers August—October.

9. Scabra.

C. foliis inferioribus ovalibus, dentatis, petiolatis, caulinis cordato-ovatis, sessilibus, omnibus scabris punctatisque; caule divaricato; capitulis paniculatis. E.

Lower leaves oval, toothed, on petioles, stem leaves cordate, ovate, sessile, all scabrous and dotted; stem divaricate; flowers in panicles.

Pursh, 2. p. 531. Nutt. 2. p. 151.
Inula Punctata. Muhl. Cat. p. 76.

Root perennial? *Stem* two to three feet high, branching from the base, glandularly hairy, and very scabrous. *Leaves* of the root distinctly petiolate, with the petioles dilated at base, coarsely toothed; of the stem somewhat amplexicaule, acute, the veins all pellucid. *Flowers* in a compound, terminal panicle. *Involucrum* many leaved, (nearly one hundred) imbricate, cylindrical; leaves linear, acute, viscid, pubescent, with the margins membranaceous. *Florets* of the ray about twenty, lanceolate, nerved; style scarcely longer than the tube; seeds oblong, and excepting at the base glabrous; exterior pappus a marginal cup, entire; the interior pappus wanting. Florets of the disk tubular, five-cleft, strongly nerved along the margins; stamens scarcely longer than the corolla. *Seed* hispid, exterior pappus composed of many membranaceous scales, the interior scabrous, reddish brown. *Receptacle* deeply celled.

Grows on the sand ridges near the ocean, and in dry pastures.

Flowers October.

The two preceding species differ in habit from this genus and the C. Scabra very much, in the structure of the seed and pappus. If the double or exterior pappus should be found to form permanent generic distinctions, and to unite those species which in habit, symmetry and character agree, this plant must be separated from this genus. It may be distinguished by the following character:

CALYCIUM. *Involucrum* imbricatum, cylindricum. *Antheræ* basi nudæ. *Semina* radii glabra, cupula coronata; disci hirsuta, pappo duplici, exteriore membranaceo polyphyllo, interiore piloso scabro. *Receptaculum* favosum.

The first seven species of this genus, together with the C. falcata, form a very natural group, though the two first are marked with strong peculiarities. The two last differ in habit, and have also characteristic distinctions, which, with the increasing accuracy of the science, may cause them to be removed from this genus.

ASTER. Gen. Pl. 1291.

Involucrum imbricatum, squamis inferioribus patulis. *Corollulæ* radii plures 10 (rarissime pauciores.) *Pappus* simplex, pilosus. *Receptaculum* nudum.

Involucrum imbricate, with the lower scales expanding. *Florets* of the ray generally more than 10. *Pappus* simple, hairy. *Receptacle* naked.

* *Involucris albis apice viridibus; corollulis radii* 5, *albis.*

* *Scales of the involucrum white, with the summits green; florets of the ray* 5, *white.*

1. Solidaginoides. Mich.

A? foliis lineari-lanceolatis, integerrimis, margine scabris; floribus sessilibus,aggregatis; involucris imbricatis, squamis obtusis, appressis.

Leaves linear-lanceolate, entire, scabrous along the margin; flowers sessile, aggregate; involucrum imbricate, with the scales obtuse, appressed.

Sp. pl. 3. p. 2024. Pursh, 2. p. 543. Nutt. 2. p.
Aster Solidagineus. Mich. 2. p. 108.
Conyza Linifolia. Walt. p. 204.

Root perennial. *Stem* about two feet high, slightly angled, glabrous. *Leaves*, as in all of this genus alternate, sessile, two to three inches long, almost linear, obscurely three-nerved. *Flowers* in small clusters at the summits of the branches, forming a fastigiate corymb. *Involucrum* cylindrical, scales obtuse, with the green summits slightly reflected. *Florets* of the ray generally five, narrow, twice as long as the involucrum, of the disk twelve to fifteen, white, longer than the involucrum. *Stamens* about as long as the corolla. *Style* scarcely longer than the stamens, two-cleft. *Seeds* oblong, slightly angled, covered with a silken pubescence. *Receptacle* naked.

Grows in damp rich soils.

Flowers July—September.

2. CONYZOIDES.

A. foliis ovali-lanceolatis, acutis, superne serratis, triplinervibus, inferioribus basi attenuatis, superioribus integerrimis; involucri squamis ovalibus, obtusis, appressis, apice subreflexis.

Leaves oval-lanceolate, acute, serrate towards the summit, triplinerved, the lower attenuate at base, the upper entire; scales of the involucrum oval, obtuse, appressed, slightly reflected at the summit.

Sp. pl. 3. p. 2043. Pursh, 2. p. 558.
Aster Marilandicus. Mich. 2. p. 108.
Conyza Asteroides. Walt. p. 204.

Stem about two feet high, striate, slightly pubescent. *Leaves* sessile, the lower cuneate lanceolate, acutely and conspicuously serrate, slightly fringed and scabrous along the margins, the upper lanceolate, entire. *Flowers* sessile, clustered, forming fastigiate corymbs. *Involucrum* nearly cylindrical, scales oblong, finely fringed, appressed, with green summits slightly reflexed. *Florets* of the ray five, sometimes six, oval, two to three-cleft at the summit, small; of the disk about fifteen, scarcely longer than the involucrum, tinged with purple. *Seeds* villous. *Pappus* scabrous.

Grows in the middle and upper districts of Carolina and Georgia.

Flowers June to August.

3. TORTIFOLIUS. Mich.

A. foliis cuneato obovatis, acutis, integerrimis, pubescentibus, tortuoso-patulis; floribus subsessilibus, aggregatis; involucri squamis lineari-lanceolatis, appressis.

Leaves cuneate, obovate, acute, entire, pubescent, tortuous, expanding; flowers nearly sessile, aggregate; scales of the involucrum linear-lanceolate, appressed.

Mich. 2. p. 109. Pursh, 2. p. 554.
Conyza Bifoliata. Walt. p. 204.

Stem about two feet high, pubescent, branching near the summit. *Leaves* sessile, obovate, sometimes obtuse, slightly twisted so as to have their edges generally vertical. *Flowers* in a fastigiate corymb. *Involucrum* cylindrical, scales linear-lanceolate, appressed. *Florets* of the ray five, linear-lanceolate, two-cleft at the summit; of the disk numerous. *Seed* oblong, covered with a silken pubescence.

Grows in dry soils; very common in the low country of Carolina and Georgia.

Flowers August to September.

** *Ligulis pluribus, foliis integerrimis.*

** *Florets of the ray numerous; leaves entire.*

4. Hyssopifolius. Linn.

A. foliis lineari-lanceolatis, trinervibus, punctatis, acutis, margine scabris; ramulis corymboso-fastigiatis, coarctatis; radio subquinquefloro; involucris imbricatis, disco duplo brevioribus.

Leaves linear-lanceolate, three-nerved, dotted, acute, with the margins scabrous; branches fastigiate, clustered; florets of the ray about 5; involucrum imbricate, half as long as the disk.

Sp. pl. 3. p. 2022. Pursh, 2. p. 543.

Stem one to two feet high, erect, striate, nearly glabrous. *Leaves* of the stem two to three inches long, narrow lanceolate, entire, distinctly three-nerved, sessile; of the branches very small. *Flowers* in small terminal fastigiate corymbs. *Scales* of the involucrum ovate; the interior obtuse, the exterior acute. *Florets* of the ray three to seven, sometimes more, white, tinged with purple; of the disk yellow. *Seeds*, as in all of this division, covered with a silken pubescence.

Grows in sandy fields and woods: New-Jersey to Carolina. Pursh. I have not seen this species in the low country of Carolina.

Flowers August to October.

5. Flexuosus. Nutt.

A. glaberrimus; foliis sessilibus, subulato-linearibus, subcarnosis, trinervibus; ramulis patulis, unifloris; involucri squamis acutissimis, laxe appressis, caule flexuoso. E.

Very glabrous; leaves sessile, subulate linear, somewhat carnose, three nerved; small branches expanding, one-flowered; scales of the involucrum very acute, loosely appressed; stem flexuous.

Nutt. 2. p. 154.
A. Tripolium. Walt. 2. 154.
A. Sparsiflorus. Pursh, 2. p. 547.

Stem flexuous, procumbent and erect, two to three feet high, slightly streaked with the decurrent midrib of the leaves, very glabrous. *Leaves* of the stem linear subulate, entire, somewhat succulent, with pellucid nerves, three to six inches long, two to three lines wide; of the branches very small, acute. *Flowers* terminal, on the scattered branches. *Involucrum* cylindrical, imbricate; leaves numerous, linear-lanceolate, very acute, glabrous, loosely appressed, tinged with purple. *Florets* of the ray about twenty, linear-lanceolate, three-toothed at the summit, pale purple; of the disk, scarcely longer than the involucrum, yellow. *Style* a little longer than the disk, stigma somewhat fimbriate. *Seed* oblong, angled, hairy. *Pappus* scabrous.

Grows in soils affected by salt water.

Flowers in September and October.

6. Paludosus.

A. foliis sessilibus, subulatis, glabris, margine scabris; pedunculis paucis, unifloris; involucris squarrosis, squamis inferioribus, foliaceis.

Leaves sessile, subulate, glabrous, with the margin scabrous; peduncles few, one-flowered; involucrum squarrose, the lower scales leaflike.

Sp. pl. 3. p. 2033. Mich. 2. p.
A. Grandiflorus? Walt. p.

Pursh, 2. p. 547.

Stem twelve to eighteen inches high, pubescent near the summit. *Leaves* linear subulate, acute, very glabrous underneath, slightly scabrous on the upper surface, three to four inches long, two to three lines wide, when young, sometimes fringed. *Flowers* large, rarely exceeding four to five, on branches or peduncles nearly naked. *Involucrum* imbricate, leaves linear lanceolate, pubescent, reflexed, equal in length, the lowest sometimes longer and leaf-like. Florets of the ray about twenty-four, nearly an inch long, purple; of the disk numerous, yellow. *Seed* glabrous, angled. *Pappus* scabrous.

Grows in wet pine barrens.

Flowers October—November.

7. GRANDIFLORUS.

A. foliis subamplexicaulibus, lineari subulatis, rigidis, reflexis, margine ciliato-hispidis; caule hirto, ramis unifloris; involucri squamis lineari-lanceolatis.

Leaves somewhat amplexicaule, linear, subulate, rigid, reflexed, with the margin ciliate and hispid; stem hairy, the branches 1-flowered; involucrum squarrose, the scales linear-lanceolate.

Sp. pl. 3. p. 150. Mich. 2. p. 111. Pursh, 2. p. 550. Nutt. 2. p. 156.

Stem two to three feet high, very hairy, particularly towards the summit. *Leaves* two to four inches long, scabrous, sometimes almost hispid, linear, acute, the upper subulate. *Flowers* solitary on branches much more numerous than in the preceding species. *Involucrum* conspicuously squarrose, scales linear lanceolate, reflected. *Florets* of the ray numerous, large for this genus, linear-lanceolate, purple; of the disk numerous, yellow. *Seeds* nearly glabrous. Dill. Hort. Elth.

Grows in dry sandy woods, Carolina, Pursh. In the mountains of North-Carolina and Virginia. Mich. I have not seen this species in the low country.

Flowers October—November.

8. EXILIS. E.

A. glaberrimus; caule gracili, elato, parce ramoso; foliis prælongis, lineari subulatis;

Very glabrous, stem slender, tall, sparingly branched; leaves very long, linear, subulate;

capitulis racemosis; involucri squamis lineari lanceolatis, radio dimidio brevioribus. E.	heads in racemes; scales of the involucrum linear-lanceolate, half as long as the ray.

Stem four to five feet high, erect, very slender, with a few scattering branches, which near the summit become corymbose. Lower *leaves* four to six inches long, scarcely exceeding a line in width, very slightly scabrous along the margin, the upper diminishing in size; those of the branches linear-lanceolate. *Flowers* on the lower branches few, on the upper in racemes on peduncles two to four lines long. *Scales* of the involucrum linear-lanceolate, glabrous, loosely appressed. *Florets* of the ray about twenty, narrow, twice as long as the involucrum, pale purple; of the disk yellowish. *Seed* somewhat pubescent.

Grows in damp soils in the western districts of Georgia.

Flowers September—October.

9. SUBULATUS. Mich.

A. glaberrimus; foliis lineari subulatis, acutis, erectis; ramis multifloris; involucris cylindraceis, squamis subulatis; ligulis radii minutis.	Very glabrous; leaves linear-subulate, acute, erect; branches many flowered; involucrum cylindrical, the scales subulate; florets of the ray minute.

Mich. 2. p. 111. Pursh, 2. p. 545. Nutt. 2. p. 154.

Stem erect, two to three feet high, glabrous, with numerous expanding branches. *Leaves* one to four inches long, two to three lines wide, smooth, entire, somewhat appressed to the stem. *Flowers* very small, in a loose terminal panicle. *Involucrum* many leaved, imbricate, scales slightly reflected at the summit. *Florets* of the ray about thirty, scarcely longer than the involucrum, unequally three-cleft, pale purple; of the disk, six to ten, yellow. *Seeds* hairy.

Grows with A. Flexuosus in soils affected by salt water.

Flowers September—October.

10. FOLIOLOSUS. Ait.

A. caule ramosissimo, erecto; foliis lineari	Stem bearing many branches, erect; leaves

lanceolatis, integerrimis, margine scabris, rameis minutis creberrimis; ramis paucifloris; involucri squamis acutis, appressis.	linear-lanceolate, entire with the margins scabrous, those of the branches minute and numerous; branches few flowered; scales of the involucrum acute, appressed.

Sp. pl. 3. p. 2025. Pursh, 2. p. 545. Nutt. 2. p. 155.
A. Coridifolius. Mich. 2. p. 112.

Root perennial. *Stem* two to three feet high, glabrous, with the branches expanding. *Leaves* sessile, those of the stem about an inch and half long, acute at each end, those of the branches very small, appressed; all glabrous but scabrous along the margins. *Panicle* compound, the branches generally few flowered. *Involucrum* imbricate, scales acute, appressed, hairy or fringed at the summit. *Florets* of the ray twenty to twenty-four, linear-lanceolate, pale purple; of the disk about thirty, yellow. *Style* scarcely as long as the stamens. *Seed* glabrous. *Pappus* somewhat scabrous.

The plant I have described is certainly the A. Coridifolius of Michaux. It appears to differ in some respects from the A. Foliolosus of Ait.

Grows in dry soils.

Flowers September—October.

11. SPARSIFLORUS. Mich.

A. glabellus; foliis linearibus, integris, reflexis; caule tenui, ramosissimo; ramis ramulisque patulis, setaceis, unifloris; involucri squamis appressis.	Nearly glabrous; leaves linear, entire, reflexed; stem slender, much branched; the branches expanding, setaceous, one-flowered; scales of the involucrum appressed.

Mich. 2. p. 112. Nutt. 2. p. 155.

This species I have not noticed and perhaps as suggested by Mr. Nuttall, it is only a variety of the A. Foliolosus. The A. Flexuosus of Nuttall, A. Geniculatus, Hamilton, was considered by Dr. Muhlenberg, as well as Pursh, to be the A. Sparsiflorus of Michaux.

Grows in the low country of Carolina. Mich.

Flowers.

12. Tenuifolius. Lin.

A. foliis lineari-lanceolatis utrinque attenuatis, integerrimis, margine scabriusculis; caule glabro, ramoso, erecto, ramulis unifloris; involucri squamis acutis, laxis.	Leaves linear-lanceolate, tapering at each end, very entire, slightly scabrous along the margin; stem glabrous, branching, erect, the branches one-flowered; scales of the involucrum acute, loose.

Sp. pl. 3. p. 2026. Pursh, 2. p. 546? Nutt. 2. p. 155.

Stem two to three feet high, glabrous near the base, finely pubescent towards the summit. *Leaves* very numerous, linear, acute at each end, glabrous, slightly scabrous along the margins, those near the flowers, becoming suddenly very minute. *Flowers* numerous, in racemes along the main branches, on small branches or peduncles about an inch long. *Scales* of the involucrum linear, acute, imbricate, loosely appressed, much shorter than the disk. *Florets* of the ray numerous, very narrow, pale purple; of the disk numerous, yellowish. *Seeds* oblong, finely pubescent. *Pappus* hairy.

Grows in loose soils, particularly in the upper districts of Carolina.

Flowers October—November.

13. Dumosus? Lin.

A. foliis lineari-lanceolatis, integerrimis, glabris; caule paniculato; floribus terminalibus; involucri squamis lineari-lanceolatis, imbricatis, appressis. E.	Leaves linear-lanceolate, entire, glabrous; stem panicled; flowers terminal; scales of the involucrum linear-lanceolate, imbricate, appressed.

Sp. pl. 3. p. 2026. Pursh, 2. p. 546.

Stem about two feet high, glabrous, somewhat sparingly branched. *Leaves* linear-lanceolate, acute, entire and slightly scabrous along the margin. *Flowers* at the summits of the branches, solitary, terminal. *Scales* of the involucrum linear-lanceolate, acute, loosely appressed, glabrous. *Florets* of the ray narrow, pale purple. *Seeds* nearly glabrous.

This species is by Mr. Nuttall considered as a variety of A. Tenuifolius, to which in its foliage it is closely allied. As I have specimens however strongly resembling the original figure of Pluk. (t. 78. f. 6.) and bearing upon branches several inches long but one solitary terminal flower, I have concluded to retain it for the present and point it out as one of the many doubtful species in this prolific genus.

Grows in damp rich soils.

Flowers October.

14. Ericoides.

A. foliis linearibus, integerrimis, glaberrimis, ramulorum subulatis, approximatis, caulinis elongatis; involucri squamis lanceolatis, acutis; caule glabro.	Leaves linear, entire, very glabrous, those of the branches subulate, approximate, of the stem long; scales of the involucrum lanceolate, acute; stem glabrous.

Willd. Sp. pl. 3. p. 2027. Pursh, 2. p. 546.

Stem two to three feet high, very glabrous, branches very numerous, slender, expanding. *Leaves* of the stem linear, acute at each end, glabrous; of the branches, subulate, gradually diminishing in size, very slender, so that although numerous they scarcely clothe the branches. *Flowers* as in the preceding species, on short peduncles of half an inch to an inch long, forming racemes along the large branches. *Scales* of the involucrum comparatively large, distinctly lanceolate, nearly as long as the disk. *Florets* of the ray, numerous, linear, pale purple. *Seed* a little pubescent. *Pappus* slightly scabrous.

This species appears to differ from the preceding by the very narrow subulate leaves on the branches, gradually diminishing in size and by the scales of the involucrum which are much larger, lanceolate, and approaching more nearly to the length of the disk. The A. Ericoides of Mich. probably belongs to A. Multiflorus or A. Ciliatus.

Grows in barren soils from Canada to Carolina. Pursh. My specimens are from Pennsylvania, marked by D. Muhlenberg, A. Ericoides verus Lin. secundum Smith.

Flowers October—November.

15. Racemosus. E.

A. foliis lineari-lanceolatis, subtus subpubescentibus, margine	Leaves linear-lanceolate, somewhat pubescent underneath, sca-

scabris; ramis gracilibus, elongatis; capitulis subsessilibus, confertis, juxta summitatem ramorum. E.

brous along the margin; branches slender, long; heads nearly sessile, crowded toward the summit of the branches.

Root perennial. *Stem* about two feet high, very diffuse, with slender branches eight to twelve inches long, slightly pubescent. *Leaves* linear-lanceolate, pubescent underneath, along the margin and midrib; those of the stem one to two inches long, one to two lines wide, those of the branches very small, two to three lines long. *Flowers* very small, in simple racemes, occupying two to three inches at the summit of the branches, on peduncles one to two lines long. *Scales* of the involucrum imbricate, linear-lanceolate, loosely appressed, nearly glabrous, as long as the disk. *Florets* of the ray numerous, linear, pale purple; of the disk yellow. *Seeds* slightly pubescent.

Grows in damp rich soils—Paris Island.

Flowers September—October.

16. MULTIFLORUS.

A. foliis linearibus, integerrimis, glabriusculis, margine subciliatis; caule ramosissimo, diffuso, pubescente; involucris pedunculisque squarrosis, squamis oblongis, ciliatis. E.

Leaves linear, entire, nearly glabrous, slightly fringed; stem diffusely branched, pubescent; involucrum and peduncles squarrose, the scales oblong, fringed.

Sp. pl. 3. p. 2027. Pursh, 2. p. 546.

Stem two to three feet high, branching, very pubescent, almost hispid. *Leaves* linear, acute, small, pubescent and fringed along the margin. *Flowers* in crowded terminal racemes, on the horizontal branches somewhat secund. *Peduncles* two to three lines long. *Scales* of the involucrum oblong and obovate, fringed, squarrose, and the small leaves on the short peduncles are commonly as squarrose as the involucrum, of which they then appear to be a continuation. *Florets* of the ray oblong, entire? nearly white; of the disk yellowish. *Seed* pubescent.

Grows in dry fields—Canada to Carolina. Pursh.

17. SQUARROSUS. Walt.

A. foliis creberrimis, arcte sessilibus, ovatis, acutis, reflexis, rigidis, margine hispidis; caule ramoso hirto; ramulis unifloris; involucri squamis lanceolatis, hirtis, laxe appressis.	Leaves very numerous, closely sessile, ovate, acute, reflexed, rigid, hispid along the margin; stem branching, hairy; branches one-flowered; scales of the involucrum lanceolate, hairy, loosely appressed.

Sp. pl. 3. p. 2028. Walt. p. 209. Mich. 2. p. 112. Pursh, 2. p. 547. Nutt. 2. p. 155.

Stem about two feet high, procumbent, branching, hispid, very rough. *Leaves* small, crowded, sessile, the young sometimes obovate, the old deltoid, acute, very scabrous, sprinkled with rigid hair. *Flowers* terminal, forming a loose panicle. *Scales* of the involucrum imbricate, (twenty-four to thirty,) mucronate, after flowering reflexed. *Florets* of the ray sixteen to twenty, linear-lanceolate, three-toothed at the summit, bright blue, handsome; of the disk yellow. *Seed* hairy. *Pappus* scabrous.

Grows in dry soils—common.

Flowers September—November.

18. CONCOLOR. Lin.

A. foliis oblongo-lanceolatis, integerrimis, utrinque cano-pubescentibus; caule simplicissimo, erecto, pubescente; racemo terminali; involucri squamis lanceolatis, sericeis, appressis.	Leaves oblong, lanceolate, entire, hoary and pubescent on both surfaces, stem simple, erect, pubescent; raceme terminal; scales of the involucrum lanceolate, silken, appressed.

Sp. pl. 3. p. 2029. Walt. p. 209. Mich. 2. p. 111. Pursh, 2. p. 548. Nutt. 2. p. 155.

Root perennial, sometimes tuberous, like the Liatris when in sandy soils. *Stem* erect, two to three feet high, virgate, pubescent, sparingly branched.

Leaves sessile, entire, slightly three-nerved, almost tomentose. *Flowers* in a long terminal raceme, on peduncles three to six lines long. *Scales* of the involucrum slightly appressed, villous. *Florets* of the ray, twelve to fifteen, linear-lanceolate, bright blue; of the disk blue also. *Anthers* and *Stigmas* purple. *Seed* villous. *Pappus* slightly scabrous.

Grows in dry soils—common.

Flowers September—October.

19. RETICULATUS. Pursh.

A. foliis sessilibus, oblongo lanceolatis, utrinque acutis, cano tomentosis, triplinervibus, subtus reticulato venosis; floribus racemosis; involucri squamis acutissimis.	Leaves sessile, oblong, lanceolate, acute at each end, hoary and tomentose, triplinerved, underneath reticulately veined; flowers in racemes; scales of the involucrum very acute.

Pursh, 2. p. 548.

Stem about three feet high, tomentose, branching toward the summit. *Leaves* with the margins revolute, racemes somewhat fastigiate. *Peduncles* almost naked. *Scales* of the involucrum loosely imbricate. *Flowers* middle sized. *Florets* of the ray and disk white. Pursh.

With this species I am unacquainted.

Grows in dry swamps—Carolina and Georgia. Pursh.

Flowers August—October.

20. NOVÆ ANGLIÆ. Lin.

A. foliis angusto-lanceolatis, pilosis, amplexicaulibus, basi auriculatis; caule piloso; floribus terminalibus, interdum confertis; involucri squamis lanceolatis, laxe appressis, disco longioribus.	Leaves narrow, lanceolate, hairy, amplexicaule, auriculate at base; stem hairy; flowers terminal, sometimes crowded; scales of the involucrum lanceolate, loosely appressed, longer than the disk.

Sp. pl. 3. p. 2032. Mich. 2. p. 113. Pursh, 2. p. 549. Nutt. 2. p. 156.

Stem three to four or six feet high, with diffuse spreading branches, hairy, almost hispid. *Leaves* long, narrow, lanceolate, very entire, hairy and scabrous along the margin, slightly auriculate at base. *Flowers* in a loose, terminal panicle on small branches half an inch to three inches long. *Scales* of the involucrum lanceolate, acute, somewhat hispid, scarcely longer than the disk, frequently coloured. *Florets* of the ray numerous, narrow, bright purple. *Seeds* hairy, almost villous.

The plant I have described and which I collected in the western districts of Georgia, belongs to the var. Spurius, A. Spurius. Willd.—but its branches are more diffuse, and its flowers more scattered than I believe are common in that variety.

Grows in rich soils, sometimes to the height of ten feet. Pursh.

Flowers September—October.

21. CYANEUS? Hoffman.

A. foliis lineari-lanceolatis, amplexicaulibus, lævigatis; caule ramoso, glaberrimo, ramis patentibus; floribus racemoso-paniculatis, involucri squamis laxis, lanceolatis, discum æquantibus.

Leaves linear-lanceolate, amplexicaule, smooth; stem branching, very glabrous, the branches expanding; flowers in paniculate racemes; scales of the involucrum loose, lanceolate, as long as the disk.

Pursh, 2. p. 550? Nutt. 2. p. 156.

Stem two to three inches high, glabrous or slightly pubescent on the young branches. *Leaves* linear-lanceolate, those of the stem rather linear-subulate, somewhat scabrous, very acute, slightly amplexicaule. *Flowers* scattered along rigidly expanding paniculate branches, on small branches or peduncles half an inch to three inches long, not large. *Scales* of the involucrum linear-lanceolate, nearly glabrous, loosely appressed, nearly as long as the disk. *Florets* of the ray numerous (twenty to twenty-four) narrow, purple? of the disk purple. *Seed* pubescent.

I have inserted this species with much hesitation. I have no opportunity of referring to the figure of Hoffman as the type of this species, and the plant I have described which was sent me under this name by Dr. Schweinitz is certainly not the plant of Pursh. It however differs from any species I have hitherto described, and until a good monograph of this genus with plates, shall be published, many of its species must continue obscure and doubtful.

22. VIRGATUS. E.

A. foliis lineari-lanceolatis, amplexicaulibus, glaberrimis; caule sub ramoso, ramis virgatis, erectis; capitulis racemosis; involucri squamis acutissimis, sub squarrosis. E.

Leaves linear-lanceolate, amplexicaule, very glabrous; stem sparingly branched, branches virgate, erect; heads racemose; scales of the involucrum very acute, slightly squarrose.

Stem erect, three to four feet high, glabrous, branches few, erect, strictly virgate, slightly pubescent at the summit. *Leaves* of the stem three to four inches long, three to four lines wide, sessile, amplexicaule, glabrous, with the margins a little scabrous; those of the branches similar but smaller. *Flowers* in simple terminal racemes, on peduncles half an inch to two inches long. *Scales* of the involucrum linear-lanceolate, very acute, almost mucronate, slightly squarrose. *Florets* of the ray, twenty to twenty-four, small, bluish purple. *Seeds* nearly glabrous.

From the A. Cyaneus this species differs by its larger leaves and long, erect, virgate branches; from A. Phlogifolius which it most resembles in the size of its leaves, it differs by its want of pubescence, smaller flowers and simple racemes.

Grows in the western district of Georgia.

Flowers September—October.

23. CAROLINIANUS. Walt.

A. caule fruticoso, flexuoso, ramosissimo, pubescente; foliis sessilibus, oblongo-lanceolatis, utrinque attenuatis; involucri squamis lineari-lanceolatis, pubentissimis, sub-squarrosis.

Stem shrubby, flexuous, much branched, pubescent; leaves sessile, oblong lanceolate, tapering at each end; scales of the involucrum linear-lanceolate, very pubescent, somewhat squarrose.

Sp. pl. 3. p. 2017. Walt. p. 208. Mich. 2. p. 111. Pursh, 2. p. 550. Nutt. 2. p. 156.

Stem pubescent, flexuous and decumbent, leaning upon surrounding plants and growing to the height of ten or twelve feet, very pubescent when young. *Leaves* oblong-lanceolate, pubescent, very acute, attenuated near the base, then dilated and amplexicaule. *Flowers* very numerous, though generally solitary on short branches, large and handsome. *Scales* of the involucrum very pubescent, almost villous. *Florets* of the ray numerous, bright purple; of the disk purplish. *Seeds* pubescent.

Grows in swamps.

Flowers October.

**** Foliis lanceolatis ovatisque, inferioribus serratis.*	**** Leaves lanceolate and ovate, the lower serrate.*
† Floribus corymbosis.	*† Flowers in corymbs.*

24. Surculosus? Mich.

A. caule simplici, superne pubescente; foliis obovato-lanceolatis, acutis, parce serratis, supra scabris, superioribus minoribus; floribus paucis, majusculis; involucri squamis oblongo-ovatis, reflexis, pubentissimis. E.	Stem simple, pubescent towards the summit; leaves obovate-lanceolate, acute, sparingly serrate, scabrous on the upper surface, the upper ones small; flowers few, large; scales of the involucrum oblong, ovate, reflexed, very pubescent.

Mich. 2. p. 112. Pursh, 2. p. 547. Nutt. 2. p. 157.
A. Liatroides. Muhl. Cat.

Root creeping. *Stem* erect twelve to eighteen inches high, very pubescent towards the summit. *Leaves* sessile, somewhat three-nerved, slightly scabrous underneath, pubescent and very scabrous on the upper surface, ciliate when young; the lower leaves attenuate at base, three to four inches long, six to eight lines wide, the upper smaller. *Flowers* large, not numerous, (thirty-five) in a small terminal corymb, sometimes solitary. *Involucrum* imbricate, cylindrical; the lower leaves ovate, nearly acute; the interior oblong, obtuse, reflected, all very pubescent. *Florets* of the ray about twenty, bright purple; of the disk, yellow. *Seeds* slightly angled, and a little hairy. *Pappus* scabrous.

Grows in Carolina, in the flat pine barrens near Purysburg.

Flowers October—November.

25. Puniceus.

A. ſoliis amplexicaulibus, lanceolatis, serratis, scabriusculis; ramis paniculatis, involucris laxis discum superantibus, squamis lineari-lanceolatis, subæqualibus; caule hispido.	Leaves amplexicaule, lanceolate, serrate, slightly scabrous; branches paniculate; involucrum loose, longer than the disk; scales linear-lanceolate, nearly equal; stem hispid.

Sp. pl. 3. p. 2040. Mich. 2. p. 115. Pursh, 2. p. 554. Nutt. 2. p. 158.

The plant which in the low country of Carolina and Georgia has been considered as the A. Puniceus, differs so much from the Northern specimens which I possess, that it ought probably to constitute a new species.

The specific character above quoted is taken from Willdenow. I shall now describe the plant as it appears to us.

Stem two to three feet high, robust, lucid, glabrous, the branches furrowed, pubescent. *Leaves* sessile, spathulate-lanceolate, dilated and semiamplexicaule, acutely serrate, smooth on the under surface, scabrous on the upper, six inches long and nearly two wide, when young pubescent. *Flowers* large, numerous, with a corymbose panicle. *Scales* of the involucrum numerous, imbricate, linear, acute, fringed, reflected. *Florets* of the ray twenty to thirty, linear-lanceolate, bright purple; of the disk numerous, yellow. *Anthers* exserted. *Seed* angled, a little hairy.

Grows along the margins of our rivers. Very common on the tide lands of the Ogechee.

Flowers October—November.

26. Acuminatus.

A. foliis lato-lanceolatis, inferne attenuatis, integris, superne inæqualiter serratis, longissime acuminatis; caule simplici, flexuoso, anguloso, panicula corymbosa, divaricato-dichotoma; involucri	Leaves broad, lanceolate, tapering towards the base, entire, unequally serrate near the summit, conspicuously acuminate; stem simple, flexuous, angled; panicle corymbose, divaricate, dicho-

foliolis laxis, linearibus, disco brevioribus.	tomous, leaves of the involucrum loose, linear, shorter than the disk.

Mich. 2. p. 109. Pursh, 2. p. 555.

This species I have not seen in Carolina. Pursh says that a humble variety with a naked few-flowered corymb, scarcely longer than the leaves, grows on the summits of our highest mountains.

Flowers August—October.

27. Dracunculoides. Willdenow.

A. foliis linearibus, acuminatis, integerrimis, inferioribus lineari-lanceolatis, subserratis; ramis corymbosis; involucris imbricatis; caule glabriusculo.	Leaves linear, acuminate, entire, the lower linear-lanceolate, slightly serrate; branches corymbose; involucrum imbricate; stem nearly glabrous.

Sp. pl. 32. p. 2050. Pursh. 2. p. 557.

Stem four feet high, erect, the branches corymbose, and marked with a decurrent hairy line; the lower leaves one to two inches long, linear-lanceolate, acuminate at each end, serrate in the middle, the upper linear, entire. *Flowers* small. *Florets* of the ray nearly white. *Scales* of the involucrum lanceolate, acute, somewhat expanding. Willd.

With this species I am unacquainted.

Grows in low grounds and along ditches: New-Jersey to Carolina. Pursh.

Flowers September—November.

†† *Floribus paniculatis.*	†† *Flowers in panicles.*

28. Junceus? Ait.

A. foliis lanceolato, linearibus, sessilibus glabris, infimis subserratis, ramulorum lanceolatis; caule pani-	Leaves lanceolate, linear, sessile, glabrous, the lower slightly serrate, those of the branches lanceolate; stem

culato, glabro, ramis virgatis; involucris imbricatis.

paniculate, glabrous, branches virgate; involucrum imbricate.

Sp. pl. 3. p. 2050. Pursh, 2. p. 557. Nutt. 2. p. 158.

Stem two to four feet high, with long slender branches, slightly pubescent. *Leaves* sessile, narrow, lanceolate, serrate, glabrous; those of the branches entire. *Flowers* small, in racemes at the end of the virgate branches, on peduncles two to four lines long. *Scales* of the involucrum linear-lanceolate, acute, nearly glabrous. *Florets* of the ray (sixteen to twenty,) narrow, pale purple. *Seeds* somewhat pubescent.

I know not whether my reference of this plant is correct. I have of it apparently two varieties, one with leaves longer and more acutely serrate than the other and with flowers somewhat longer; but in habit similar.

Grows in damp soils, along ditches, swamps, &c.

Flowers September—October.

29. Divergens. Ait.

A. foliis elliptico-lanceolatis, serratis, glabris, caulinis lineari-lanceolatis; ramis patentibus; involucris imbricatis; caule pubescente.

Leaves elliptic lanceolate, serrate, glabrous, those of the stem linear-lanceolate; branches expanding; involucrum imbricate; stem pubescent.

Sp. pl. 3. p. 2052. Pursh, 2. p. 558. Nutt. 2. p. 159.

Stem two to four feet high, with the summit and numerous branches pubescent. *Leaves* lanceolate, very acute, finely serrate, glabrous; the small ones on the branches as usual entire. *Flowers* in somewhat crowded racemes on the expanding branches on peduncles one to three lines long. *Scales* of the involucrum linear-lanceolate, imbricate, nearly glabrous. *Florets* of the ray white, tinged with purple. *Seeds* somewhat pubescent.

Mr. Nuttall considers the A. Diffusus of Aiton, and the A. Pendulus, Ait. with long divaricate pendulous branches as only varieties of the present species. The last would appear from description to approach very nearly the A. Junceus of this sketch. If they should prove the same plant, they must I think be separated from A. Divergens.

Grows in woods in moderately fertile soils.

Flowers September—October.

30. Tradescanti. Lin.

A. foliis lanceolatis, serratis, sessilibus, glabris; ramis virgatis; involucris imbricatis; caule tereti, glabro.	Leaves lanceolate, serrate, sessile, glabrous; branches virgate; involucrum imbricate; stem terete, glabrous.

Sp. pl. 3. p. 556. Mich. 2. p. 115. Pursh, 2. p. 556. Nutt. 2. p. 158.

Stem three to four feet high, glabrous, with numerous erect virgate branches. *Leaves* lanceolate, acute at each end, when large finely serrate, when small entire, a little scabrous on the upper surface. *Flowers* small, in simple or compound racemes, very numerous. *Scales* of the involucrum linear-lanceolate, acute, nearly glabrous. *Florets* of the ray, (about twenty) narrow, pale purple, of the disk, yellow. *Seeds* a little hairy.

The plant I have described agrees very exactly with the A. Vimineus, Willd: considered by Pursh, and I believe Mr. Nuttall, as a variety of A. Tradescanti. I must however remark that I have a specimen sent from Penn. by Dr. Muhlenberg, as the A. Tradescanti of Lin. which differs very widely from this, but differs, I think also, from the description of Ait. and Willdenow.

Grows in the mountains of Carolina, Mich. Probably in all of the upper districts, as it is found in the same range of country in N. Carolina.

Flowers September—October.

31. Discoideus. E.

A? caule erecto sub villoso; foliis spathulato ovatis, acutis, serratis, pilosis, subtus pallidioribus; involucri squamis, subulatis, villosis, laxe appressis, sub squarrosis; radii corollulæ 0.	Stem erect, somewhat villous; leaves spathulate, ovate, acute, serrate, hairy, pale on the under surface; scales of the involucrum subulate, villous, loosely appressed, somewhat squarrose; florets of the ray none.

Stem two to three feet high, erect, generally hairy, sometimes very villous, branches not numerous, virgate, erect. *Leaves* all spathulate, distantly and coarsely serrate, very hairy on the under surface, three to four inches long, including the attenuated base, nearly two inches wide. *Flowers* of a middling size, in a long virgate panicle. The lateral racemes axillary, few-flowered. *Scales* of the involucrum subulate, acute, villous, somewhat squarrose, scarcely longer than the mature seed. *Florets* of the ray wanting; of the disk twelve to fifteen, deeply five-cleft, pale purple. *Seed* oblong, very glabrous. *Receptacle* small, naked.

This plant, when I first discovered it, appeared to me likely to constitute a genus in Syngenesia Æqualis, somewhere between Vernonia and Eupatorium; but its involucrum and its habit so much resemble those of an Aster, that I have been induced for the present to arrange it here—varies with the lower stem leaves, nearly glabrous, and the leaves spathulate lanceolate.

Grows very abundantly in the rich high lands between the Alabama and Chatahouchie rivers.

Flowers September—October.

32. VERSICOLOR. Willd.

A. foliis subamplexicaulibus, lato-lanceolatis, serratis; caule ramosissimo, glabro; involucri squamis lanceolatis, laxis, disco brevioribus.	Leaves somewhat amplexicaule, broad, lanceolate, serrate, stem branching, glabrous; scales of the involucrum lanceolate, loose, shorter than the disk.

Sp. pl. 3. p. 2045. Pursh, 2. p. 553. Nutt. 2. p. 158.

Upper leaves entire, the lower somewhat serrate, those of the root oblong, attenuate at each end, serrate in the middle, all glabrous. *Flowers* handsome, clustered towards the summits of the branches. *Florets* of the ray, first white, afterwards purple. Willd.

The specimens of plants that pass under this name with us, agree very accurately with the description of Willdenow, excepting that the flowers are small, and the plant of course not as ornamental as he represents.

Grows in rich damp soils.

Flowers September—October.

32. LÆVIGATUS.

A. foliis subamplexicaulibus, lato-lanceolatis, subserratis, lævibus; caule ramosissimo, glabro, ramulis mul-	Leaves somewhat amplexicaule, broad, lanceolate, slightly serrate, smooth; stem much divided, gla-

tifloris; involucri; squamis, lanceolatis, laxis, discum subæquantibus.

brous, branches many flowered; scales of the involucrum lanceolate, loose, as long as the disk.

Sp. pl. 3. p. 2046. Pursh, 2. p. 553.

Stem two to five feet high, glabrous, branching profusely. Lower *leaves* two to three inches long, semiamplexicaule, glabrous, the upper narrow nearly entire. *Flowers* numerous, in racemose panicles. *Scales* of the involucrum linear-lanceolate, loosely imbricate. *Florets* of the ray about thirty, nearly linear, pale purple; of the disk yellow. *Seeds* pubescent.

Grows in damp rich soils.

Flowers October—September.

33. AMPLEXICAULIS.

A. foliis ovato-oblongis, acutis, amplexicaulibus, cordatis, serratis; caule paniculato, glabro; involucri squamis lanceolatis, arcte imbricatis.

Leaves ovate, oblong, acute, amplexicaule, cordate, serrate; stem paniculate, glabrous; scales of the involucrum lanceolate, closely imbricate.

Sp. pl. 3. p. 2046. Pursh, 2. p. 552. Nutt. 2. p. 153.

Stem erect, two to three feet high, glabrous, sparingly branched towards the summit. *Leaves* oblong lanceolate, the lower attenuate, semiamplexicaule, the upper more cordate, all glabrous and slightly serrate. *Flowers* middle sized, in a terminal panicle. *Scales* of the involucrum linear-lanceolate, thick, very acute, glabrous. *Florets* of the ray (sixteen to twenty) narrow, purple; of the disk yellow. *Seed* nearly glabrous.

Grows in dry soils moderately fertile.

Flowers September—October.

**** *Foliis cordatis, serratis.*	**** *Leaves cordate, serrate.*

35. UNDULATUS. Lin.

A. foliis caulinis oblongis, cordatis, amplexicaulibus, undulatis, scabris, summitate dentatis; paniculæ ramis patentibus, paucifloris; involucris subsquarrosis.	Stem leaves oblong, cordate, amplexicaule, undulate, scabrous, toothed near the summit; branches of the panicle expanding, few-flowered; involucrum slightly squarrose.

A. Undulatus. Linn. verus sec. Smith. Sp. pl. edit. 1. 1228.
A. Patens. Willd. Sp. pl. 3. p. 2034. Pursh, 2. p. 551.
A. Amplexicaulis. Mich. 2. p. 114.

Stem two to three feet high, scabrous, branching towards the summit. *Leaves* of the stem scabrous, and a little hairy, slightly undulate, sometimes entire, but frequently toothed near the summit; amplexicaule with the lobes surrounding the stem; of the branches oblong-lanceolate, sessile. *Flowers* large, not numerous, in a loose terminal panicle. *Scales* of the involucrum very numerous, linear-lanceolate, acute, pubescent, reflected at the summits. *Florets* of the ray about twenty, bright bluish purple; of the disk numerous, yellowish, sometimes changing to purple, as they decay. *Seeds* hairy.

Grows in dry soils—very common.

Flowers September—November.

36. DIVERSIFOLIUS. Mich.

A. foliis sub-integris, undulatis, sub-pubescentibus, scabris, inferioribus alato-petiolatis, cordato-ovatis, superioribus oblongo-lanceolatis; panicula laxa, ramulis gracilibus racemifloris.	Leaves nearly entire, undulate, pubescent, somewhat scabrous, the lower ones cordate, ovate, with winged petioles, the upper oblong-lanceolate; panicle loose, the branches slender, racemose.

Mich. 2. p. 113.
A. Undulatus. Sp. pl. 3. p. 2035. Pursh, 2. p. 551. Nutt. 2. p. 156.
A. Tardiflorus? Walt. p. 210.

Stem about three feet high, pubescent, scabrous, diffusely branched near the summit. *Leaves* generally entire, sometimes slightly toothed; the petiole of the lower ones winged, dilated at base, amplexicaule—those of the branches very small, all very pubescent underneath, slightly scabrous on the upper surface. *Flowers* of a middling size, in a long terminal panicle. *Leaves* of the involucrum numerous, lanceolate, pubescent, fringed. *Florets* of the ray from twelve to fifteen, pale purple; of the disk twenty-four, yellow, changing as they decay to purple. *Seeds* slightly angled, a little hairy.

Grows in dry soils, very common.
Flowers September—November.

37. Sagittæfolius. Wedemeyer.

A. foliis oblongo-lanceolatis, sessilibus, medio serratis, sub glabris, radicalibus oblongis, cordato-sagittatis, serratis, petiolatis; caule ramoso, glabro; involucris laxis, imbricatis.	Leaves oblong-lanceolate, sessile, serrate in the middle, rather glabrous, those of the root oblong, cordate, sagittate, serrate, petiolate; stem branching, glabrous; involucrum loose, imbricate.

Sp. pl. 3. p. 2035. Pursh, 2. p. 551. Nutt. 2. p. 156.

Stem two to three feet high, erect, glabrous, bearing many branches. *Leaves* of the root oblong, unequally serrate, cordate and sagittate at base, glabrous, two inches long and upwards, on naked petioles; lower stem leaves oblong, ovate, acuminate, coarsely serrate, on winged petioles, the upper oblong-lanceolate, acuminate, sessile, serrate in the middle, the highest entire. *Flowers* of a middling size, peduncles leafy. *Scales* of the involucrum lanceolate, loosely imbricate. Willd.

The plants which I have examined as belonging to this species have their leaves slightly scabrous and pubescent along the veins, and nearly entire, thinner however and more glabrous than those of A. Diversifolius to which they are nearly allied.

Grows in the upper districts of North and South-Carolina.
Flowers September—October.

38. Scaber. E.

A. foliis inferioribus petiolatis, oblongo-cordatis, acutis, integerrimis, caulinis sessilibus, amplexicaulibus, ovato lanceolatis, superne attenuatis, acutissimis, omnibus scabris, undulatis; panicula laxa elongata, ramulis racemifloris. E.

Lower leaves petiolate, oblong, cordate, acute, entire, those of the stem sessile, amplexicaule, ovate lanceolate, tapering to a very acute point, all scabrous, undulate; panicle loose, long, the branches racemose.

Stem about three feet high, striate, a little hairy, very scabrous. Lower *leaves* on petioles, two to three inches long, cordate, with the sinus deep, and the lobes round; stem leaves rather narrow, lanceolate, and ovate-lanceolate, rigid, very acute, all scabrous. *Flowers* rather small, in a long terminal panicle. *Scales* of the involucrum linear-lanceolate, acute, pubescent, appressed. *Florets* of the ray twelve to sixteen, oval, purple; of the disk yellow. *Seed* angled, hairy. *Pappus* scabrous.

This species differs from A. Diversifolius in its leaves which are narrower, much more acute, more rigid, more scabrous and less pubescent, and perhaps also by a larger panicle.

Grows in soils rather dry.

Flowers September—October.

39. Paniculatus?

A. foliis ovato-lanceolatis, subserratis, petiolatis, glabris, radicalibus ovato-cordatis serratis, scabris, petiolis nudis; caule ramosissimo, glabro, ramulis pilosis; involucris laxis, subimbricatis.

Leaves ovate-lanceolate, slightly serrate, petiolate, glabrous, those of the root ovate-cordate, serrate, scabrous, with the petioles naked; stem much divided, glabrous, branches hairy; involucrum loose, somewhat imbricate.

Sp. pl. 3. p. 3035. Pursh, 2. p. 551. Nuttall, 2. p. 156.

I insert this species with much hesitation; my specimens which were referred to it by Dr. Muhlenberg, differ in some respects from the description of Willdenow, and may really belong to another section of this genus.

Stem three to four feet high, striate, glabrous, branching very much towards the summit, the young branches a little hairy. *Root* leaves wanting; stem leaves spathulate-lanceolate, acute, or slightly acuminate, a little hairy, particularly along the margins and veins. *Flowers* small in compact clustered racemes, forming a large terminal panicle. *Scales* of the involucrum not very numerous, subulate, nearly glabrous. *Florets* of the ray about twelve, narrow, pale purple; of the disk yellow, changing as they decay to purple. *Seeds* very glabrous.

This plant, which is probably the A. Paniculatus of Muhlenberg and Pursh, differs very essentially from the A. Diversifolius. The A. Paniculatus of Nuttall, must certainly be a different plant.

Grows in damp rich soils in the low country of Carolina.

Flowers September—October.

40. CORDIFOLIUS. Lin.

A. foliis cordatis, acutis, subtus pilosis, argute serratis, petiolatis, petiolis alatis; caule paniculato, piloso; involucris laxis, subimbricatis.

Leaves cordate, acute, hairy underneath, acutely serrate, petiolate, with the petioles winged; stem paniculate, hairy; involucrum loose, slightly imbricate.

Sp. pl. 3. 2036. Mich. 2. p. 114. Pursh, 2. p. 552. Nutt. 2. p. 156.

Stem two to three feet high, branching, the branches pubescent. *Leaves* of the root and lower part of the stem cordate, tapering to an acute point, acutely serrate, slightly pubescent underneath, on petioles one to two inches long, very slightly winged. *Flowers* numerous, rather small, in panicles composed of crowded racemes. *Scales* of the involucrum linear-lanceolate, nearly glabrous, loosely appressed. *Florets* of the ray about twelve, narrow, white, tinged with purple. *Seeds* glabrous. Varies, with the lower leaves ovate-cordate, the upper spathulate-ovate, the serratures nearly obtuse, and the petioles more conspicuously winged.

Grows in the upper and mountainous districts of Carolina and Georgia.

Flowers September—November.

41. CORYMBOSUS. Ait.

A. foliis ovatis, argute serratis, acuminatis, inferioribus cordatis, petiolis nudis; ramis pubescentibus, sub fastigiatis; involucri squamis ovato lanceolatis, arcte appressis.

Leaves ovate, acutely serrate, acuminate, the lower cordate, petioles naked; branches pubescent, somewhat fastigiate; scales of the involucrum ovate-lanceolate, closely appressed.

Sp. pl. 3. p. 2036. Pursh, 2. p. 552. Nutt. 2. p. 156.

Stem one to two feet high, glabrous, sparingly branched near the summit, the branches a little pubescent. *Leaves* somewhat large, the lower ovate, cordate, the upper spathulate-lanceolate, all glabrous, acuminate and very acutely serrate. *Flowers* not numerous, much larger than those of the preceding species, in a terminal somewhat fastigiate corymb. *Scales* of the involucrum ovate-lanceolate, pubescent, closely imbricate. *Florets* of the ray about twelve, narrow, white, tinged with purple. *Seeds* glabrous.

Grows in shady woods in the upper districts of Carolina and Georgia.

Flowers September—October.

***** *Pappo duplici, floribus plerumque corymbosis, vix hujus generis.*

***** *Pappus double, the flowers generally in corymbs.*

42. LINARIIFOLIUS. Lin.

A. foliis crebris, linearibus, mucronatis, enerviis, rigidis, patentibus, scabris; caule superne ramoso, ramis unifloris fastigiatis; involucris imbricatis, longitudine disci.

Leaves numerous, linear, mucronate, without nerves, rigid, expanding, scabrous; stem branching near the summit, branches fastigiate, one-flowered; involucrum imbricate, as long as the disk.

Sp. pl. 3. p. 2024. Walt. p. 209. Mich. 2. p. 110. Pursh, 2. p. 545. Chrysopsis Linariifolia. Nutt. 2. p. 122.

Stem about two feet high, generally erect, when young pubescent. *Leaves* alternate, but crowded, expanding or reflected, with the midrib very prominent, very scabrous along the margins, about an inch and half long. *Flowers* in an umbellate corymb, the branches generally one-flowered and clustered at the summit of the stem. *Scales* of the involucrum very numerous, imbricate, linear-lanceolate, fringed. *Florets* of the ray ten to twelve, linear-lanceolate, three-cleft at the summit, pale purple; of the disk numerous, yellow. *Seeds* oblong, villous. *Pappus* double or composed of short hairs intermingled with the long.

Between the A. Rigidus of Pursh, and this species, I can perceive no distinction.

Grows in dry soils, very common.

Flowers September—November?

43. DICHOTOMUS. E.

A. foliis arcte sessilibus, ovalibus, obtusis, pubescentibus; corymbo subdichotomo, ramulis nudis, elongatis. E.

Leaves closely sessile, oval, obtuse, pubescent; corymb somewhat dichotomous, branches naked, long.

Stem about two feet high, very pubescent, dichotomously divided towards the summit. *Leaves* oblong, oval, closely sessile and sometimes slightly cordate. *Corymb* few flowered, peduncles long, naked. *Scales* of the involucrum linear-lanceolate, very pubescent, scarcely longer than the mature seeds. *Florets* of the ray, ten to sixteen, white, tinged with purple; of the disk numerous, yellowish. *Seeds* very hairy. *Pappus* double.

Grows in damp rich soils—Paris Island.

Flowers October.

44. HUMILIS.

A. foliis subrhomboideis, ovato-lanceolatis, utrinque acuminatis, subpetiolatis, glabris, margine hispidis; corymbo divergenti-dichotomo, nudiusculo,

Leaves somewhat rhomboidal, oval-lanceolate, acuminate at each end, slightly petiolate, glabrous, hispid along the margin; corymb diverging, di-

paucifloro; involucris laxis imbricatis; radiis 8-floris.	chotomous, rather naked, few-flowered; involucrum loose, imbricate, florets of the ray 8.

Sp. pl. 3. p. 2038. Pursh, 2. p. 548.
A. Cornifolius. Sp. pl. 3. p. 2039.
A. Infirmus. Mich. 2. p. 109.

Stem one to two feet high, pubescent. *Leaves* lanceolate, acuminate at each end, reticulately veined, very conspicuously hairy along the margins and veins. *Flowers* in small terminal corymbs. *Scales* of the involucrum lanceolate, a little hairy. *Florets* of the ray about eight, lanceolate, white. *Seed* glabrous.

This species appears to me to differ from the A. Amygdalinus in its leaves, which are larger, thinner, more reticulate, and more hairy, by its larger radial florets, and by its large glabrous seed.

Grows in the mountains of Carolina. Pursh. Mich.

Flowers September—October.

45. Amygdalinus. Lam.

A. foliis lanceolatis, acuminatis, basi attenuatis, glabris, margine scabris; caule simplici, apice corymboso; involucris laxis imbricatis, squamis lanceolatis, sub acutis.	Leaves lanceolate, acuminate, tapering at base, glabrous, scabrous along the margin; stem simple, corymbose at the summit; involucrum loosely imbricate, the scales lanceolate, generally acute.

Mich. 2. p. 109. Pursh, 2. p. 549.
A. Umbellatus. Ait. 3. p. 199.
Chrysopsis Amygdalina. Nutt. 2. p. 153.

Stem about two feet high, striate, a little angled, finely pubescent near the summit. *Leaves* lanceolate, acuminate at each end, a little pubescent, the margin reticulately veined, but the veins not as prominent as in the preceding species, slightly scabrous on the upper surface. *Flowers* in a numerous and terminal corymb. *Scales* of the involucrum pubescent, scarcely longer than the mature seed, lanceolate, rather acute than obtuse, pubescent, particularly along the margins. *Florets* of the ray about twelve, oblong, narrow, white. *Seeds* pubescent along the angles. *Pappus* double.

If this plant should be made the type of a new genus, the species will probably multiply. I have by me varieties, with the leaves simply acute, not acuminate, the lowest rather obtuse, the corymbs small; and with leaves acuminate; with leaves green on both sides and slightly glaucous underneath.

Grows on the edges of swamps, in the middle and upper districts of Carolina.

Flowers August—September.

46. OBOVATUS. Nutt.

A? foliis sessilibus, ovalibus, obtusis, interdum obovatis, subrugosis, pubentissimis; corymbis paniculatis; involucri squamis imbricatis, appressis. E.

Leaves sessile, oval, obtuse, sometimes obovate, somewhat rugose, very pubescent; corymb paniculate: scales of the involucrum imbricate, appressed.

Chrysopsis Obovata. Nutt. 2. p. 152.

Stem about three feet high, branching towards the summit, very pubescent, when young somewhat viscid. *Leaves* alternate, oval, obtuse, sometimes toothed, mucronate, almost tomentose underneath, three to four inches long, one and an half inches wide. *Flowers* in a loose paniculate corymb, sometimes pyramidal. *Involucrum* many leaved, imbricate, leaves scarcely longer than the mature seed. *Florets* of the ray ten to thirteen, three toothed at the summit, white, twice as long as the involucrum; of the disk numerous, (thirty) yellow. *Style* scarcely longer than the stamens, two-cleft, stigmas thick. *Seed* angular, hispid. *Pappus* double.

Grows in damp soils.

Flowers May—June.

SOLIDAGO. GEN. PL. 1292.

Involucrum imbricatum, squamis clausis. *Radii* corollulæ circiter-5. *Pappus* simplex, pilosus. *Receptaculum* nudum.

Involucrum imbricate, with the scales appressed. *Florets* of the ray about 5. *Pappus* simple, hairy. *Receptacle* naked.

* *Racemis secundis, recurvis.*	* *Racemes secund, recurved.*

1. CANADENSIS.

S. caule villoso; foliis lanceolatis, serratis, triplinervibus, scabris; racemis paniculatis, secundis, recurvis; ligulis abbreviatis.	Stem villous; leaves lanceolate, serrate, triplinerved, scabrous; racemes paniculate, secund, recurved; florets of the ray short.

Sp. pl. 3. p. 2055. Walt. p. 206. Pursh, 2. p. 535. Nutt. 2. p. 159.

Stem two to five feet high, erect, very villous. *Leaves* lanceolate, the upper generally entire, always scabrous on the upper surface, sometimes pubescent underneath, numerous. *Flowers* in secund racemes, on long branches recurved at the summit. *Scales* of the involucrum twelve to sixteen, oblong, rather obtuse, imbricate, small, appressed. *Florets* of the ray yellow as in all of this genus, so short as to seem wanting. *Seeds* pubescent?

Grows in the mountains of Carolina.
Flowers September—October.

2. PROCERA? Ait.

S. caule villoso, erecto, foliis lanceolatis, serratis, triplinervibus, scabris, subtus villosis; racemis spiciformibus, erectis, innuptis nutantibus; ligulis abbreviatis.	Stem villous, erect; leaves lanceolate, serrate, triplinerved, scabrous, villous underneath; racemes erect, spiciform, before flowering nodding; florets of the ray short.

Sp. pl. 3. p. 2025. Pursh, 2. p. 535.

In the western districts of Georgia, I met with a species agreeing very nearly with the T. Procera of Aiton. *Stem* three to five feet high, very pubescent. *Leaves* lanceolate, very acute at each end but not acuminate, finely serrate; scabrous on the upper surface, covered with a fine pubescence on the under, conspicuously triplinerved. *Flowers* in a pyramidal panicle, the lower branches, perhaps all, recurved before flowering. *Scales* of the involucrum not numerous, linear, nearly glabrous. *Florets* of the ray rather small. *Seed* finely pubescent.

Flowers September—October.

3. REFLEXA. Ait.

S. caule erecto, villoso; foliis lanceolatis, subserratis, triplinervibus, scabris, reflexis; ramis paniculatis, subsecundis.	Stem erect, villous; leaves lanceolate, slightly serrate, triplinerved, scabrous, reflexed; branches paniculate, secund.

Sp. pl. 3. p. 2056. Pursh, 2. p. 536.

Leaves narrow lanceolate, acuminate, with about three serratures in the middle, scabrous, reflected. *Racemes* of the panicle secund, reflected, short. Willd.

Grows in pine woods and old fields. New-Jersey to Carolina. Pursh.

Flowers September.

4. LATERIFLORA. Lin.

S. caule erecto, pilosiusculo; foliis lanceolatis, subtriplinervibus, glabris, margine scabris, inferioribus subserratis; racemis paniculatis, subrecurvis, secundis.	Stem erect, a little hairy; leaves lanceolate, somewhat triplinerved, glabrous, scabrous along the margins, the lower slightly serrate; racemes paniculate, secund, recurved.

Sp. pl. 3. p. 2057. Pursh, 2. p. 536.

Plant about half the size of S. Canadensis. *Leaves* only occasionally marked with one or two teeth. Besides the terminal panicle the lower part of the stem has flowering branches. Lin. The *flowers* are larger, and the *leaves* broader than those of the preceding species. Willd.

Grows in dry soils, in woods and old fields. Pursh.

Flowers September—October.

5. **Aspera.** Ait.

S. caule erecto, tereti, piloso; foliis ovatis, subellipticis, scaberrimis, rugosis, serratis, enervibus; racemis paniculatis, secundis.	Stem erect, terete, hairy; leaves ovate, somewhat elliptic, very scabrous, rugose, serrate, without nerves; racemes paniculate, secund.

Sp. pl. 3. 2057. Mich. 2. p. 117. Pursh, 2. p. 536.

Stem erect, three to five feet high, very hairy and somewhat scabrous. *Leaves* sessile, oval-lanceolate, very scabrous on the upper surface, somewhat scabrous and hairy on the under, acutely serrate. *Flowers* in a long terminal panicle. *Racemes* secund, recurved. *Scales* of the involucrum not numerous, linear-lanceolate, nearly glabrous. *Florets* of the ray small, yellow, seeds pubescent.

Grows in Carolina. Pursh.

I have not seen this species in the low country; it probably extends along the range of our mountains.

Flowers in September.

6. **Altissima.** Lin.

S. caule erecto, hirto; foliis lanceolatis, inferioribus profunde serratis, scaberrimis, rugosis; paniculis secundis.	Stem erect, hispid; leaves lanceolate, the lower deeply serrate, very scabrous, rugose; panicles secund.

Sp. pl. 3. p. 2057. Mich. 2. p. 118. Pursh, 2. p. 536. Nutt. 2. p. 159.

7. **Rugosa.** Willd.

S. caule erecto, hirto; foliis lanceolatis, inferioribus adpresso-serratis, scaberrimis, rugo-	Stem erect, hispid; leaves lanceolate, the lower closely serrate, very scabrous, rugose;

sis; racemis paniculæ secundis patentissimis.	racemes of the panicle secund, expanding.

Sp. pl. 3. p. 2058. Pursh, 2. p. 537. Nutt. 2. p. 159.

These two species are considered by our Botanists now as mere varieties. I have, therefore, placed them together.

Stem very variable in size, three to seven feet high, robust, very hairy, branching very profusely towards the summit. Lower *leaves* sessile, lanceolate, acute, very rugose, very scabrous on the upper surface, scabrous and hairy underneath, more or less coarsely serrate; upper leaves generally ovate, with a few serratures. *Flowers* in large almost corymbose panicles, composed of small recurved branches. *Scales* of the involucrum linear-lanceolate, nearly glabrous. *Florets* of the ray rather small. *Seed* pubescent.

There are certainly some remarkable varieties included under this species; a few I shall enumerate.

a. RUGOSA. Muhl. *Stem* about three feet high, villous. *Leaves* finely serrate, *less* rugose than those of the other varieties. *Flowers* in a pyramidal panicle.

b. *Stem* hairy, rough. *Leaves* very rugose. Lateral branches of the panicle long, slender, slightly recurved.

c. *Stem* and *leaves* similar to the last. *Branches* more robust, producing numerous recurved racemes; each branch forming a long cylindrical mass of flowers.

d. *Stem* softly pubescent. *Branches* scattered, divaricate, recurved, nearly simple.

Grows in damp rich soils.

Flowers September—October.

8. VILLOSA. Pursh.

S. caule erecto, villoso; foliis sessilibus, oblongo-lanceolatis, subpilosis, enervibus, inferioribus serrulatis; racemis paniculatis, secundis.	Stem erect, villous; leaves sessile, oblong-lanceolate, somewhat hairy, nerveless, the lower serrulate; racemes paniculate, secund.

Pursh, 2. p. 538. Nutt. 2. p. 159.

Stem three to five feet high, robust, villous, with many recurved expanding branches near the summit. Lower *leaves* oblong-lanceolate, serrulate, with a few long scattered hairs along the veins, slightly scabrous, particularly along the margins and midrib; the upper oval or ovate-lanceolate, very entire, with the axils generally crowded with small leaves. *Flowers* numerous, in a terminal panicle, rather small. *Racemes* secund and recurved. *Scales* of the involucrum linear, nearly glabrous. *Florets* of the ray seven to ten, small; of the disk about five. *Seed* hairy.

This species, which appears to agree with the Villosa of Pursh, excepting that the leaves do not merit the epithet of soft, grows very abundantly in damp rich soils, and is very nearly allied to the S. Altissima.

Flowers September—October.

9. NEMORALIS. Ait.

S. caule erecto, tomentoso; foliis caulinis lanceolatis, hispidis, integerrimis, radicalibus subcuneiformibus serratis; racemis paniculatis, secundis.	Stem erect, tomentose; leaves of the stem lanceolate, hispid, very entire, of the root somewhat cuneate, serrate; racemes paniculate, secund.

Sp. pl. 3. p. 2059. Pursh, 2. p. 537. Nutt. 2. p. 156.

Stem two to three feet high, sparingly branched, covered with a fine tomentum. *Leaves* lanceolate, tapering to the base, the larger serrate, not strongly veined, slightly hispid, sessile, with small axillary clusters at their base. *Flowers* in a terminal somewhat corymbose panicle. *Scales* of the involucrum linear-lanceolate, only pubescent along the margins. *Seed* pubescent.

The whole plant, as remarked by Pursh, has a cinereous hue.

Grows in dry soils, not uncommon in old fields.

Flowers September—October.

10. ULMIFOLIA. Muhl.

S. caule erecto, villoso, striato; foliis oblongo-lanceolatis, serratis, acutis, subtus pilosis; supra subscabris; racemis paniculatis, secundis; pedunculis villosis; ligulis abbreviatis. E.	Stem erect, villous, striate; leaves oblong-lanceolate, serrate, acute, hairy underneath; slightly scabrous above; racemes paniculate, secund; peduncles villous; florets of the ray short.

Sp. pl. 3. p. 2060. Pursh, 2. p. 538. Nutt. 2. p. 159.

Stem three to four feet high, villous, when young almost tomentose, bearing towards the summit many recurved branches. *Leaves* (of the root obovate, Pursh,) of the stem oblong-lanceolate, acute, rarely acuminate, acutely serrate, veiny, slightly scabrous on the upper surface, hairy underneath, particularly along the veins. *Flowers* in an oblong terminal panicle, the racemes secund and recurved. *Scales* of the involucrum oblong, narrow, rather obtuse. *Florets* of the ray about seven, scarcely longer than the involucrum. *Seeds* pubescent, almost villous.

In changing in some respects the character of this species given by Willdenow, I have been guided by specimens sent me by Dr. Muhlenberg himself, with which plants collected in the western districts of Georgia exactly agree.

Grows in rich shaded soils.

Flowers September—October.

11. Arguta. Ait.

S. caule erecto, glabro; foliis glabris, argute inæqualiter serratis, caulinis ellipticis, radicalibus spathulato-ovatis; racemis paniculatis secundis; ligulis elongatis.

Stem erect, glabrous; leaves glabrous, acutely and unequally serrate, those of the stem elliptic, of the root spathulate-ovate; racemes paniculate, secund; florets of the ray long.

Sp. pl. 3. p. 2060. Pursh, 2. p. 538. Nutt. 2. p. 159.

Stem two to three feet high, very glabrous, though sometimes a little pubescent on the young branches, striate, frequently coloured, the branches long, virgate. *Leaves* of the root spathulate ovate, very acutely serrate, the attenuated base two to four inches long; of the stem oblong-lanceolate, serrate, of the branches lanceolate, entire, all glabrous, and somewhat triplinerved. *Flowers* on recurved racemes forming long terminal panicles. *Scales* of the involucrum, as in most of the species, linear-lanceolate, nearly glabrous. *Florets* of the ray of a middling size. *Seeds* minutely pubescent.

Grows in moderately rich, shaded soils.

Flowers in September.

12. CINERASCENS. Schweinitz.

S. caule erecto, gracili, pubescente; foliis elongatis, lineari-lanceolatis, basi attenuatis, serratis, utrinque subscabris, pubescentibus; racemis recurvis; pedunculis ligulisque elongatis. E.

Stem erect, slender, pubescent; leaves long, linear-lanceolate, attenuate at base, serrate, slightly scabrous on both surfaces, pubescent; racemes recurved; peduncles and florets of the ray long.

Stem about three feet high, pubescent, slightly scabrous, slender, bearing towards the summit branches which are slender, rather scattered, almost horizontally expanding and recurved. Lower *leaves* three to five inches long, six to eight lines wide, with a long tapering base, somewhat scabrous on both surfaces, slightly serrate, the upper distant and small. *Flowers* of a middling size in a loose terminal panicle. *Racemes* secund, the peduncles frequently three-flowered, and longer than the involucrum. *Scales* of the involucrum linear, glabrous. *Florets* of the ray about five. *Seeds* pubescent.

The plant I have described agrees in most respects with specimens sent me under this name from Salem, North-Carolina, by Dr. Schweinitz.

Grows in the western districts of Georgia.

Flowers September—October.

13. JUNCEA?

S. caule erecto, glabro, foliis lanceolatis, glabris, margine scabris, inferioribus serratis; racemis paniculatis, secundis.

Stem erect, glabrous, leaves lanceolate, glabrous, with the margins scabrous; the lower serrate; racemes paniculate secund.

Sp. pl. 3. p. 2060. Pursh, 2. p. 538.

Stem about three feet high, slender, virgate, glabrous, with the branches near the summit, rather scattered, when young pubescent. *Leaves* long lanceolate, slightly acuminate, finely and acutely serrulate, and scabrous along the margins, glabrous, obscurely triplinerved. *Racemes* secund, recurved, forming a sparse terminal panicle. *Scales* of the involucrum oval or ovate, the exterior generally obtuse, and slightly pubescent. *Florets* of the ray few, small. *Seed* thinly sprinkled with hairs.

Grows in the upper districts of Carolina. In sandy fields and woods. Pursh.

Flowers September—October.

14. ELLIPTICA? Ait.

S. caule erecto, glabro; foliis ellipticis, lævibus, serratis; racemis paniculatis, secundis; ligulis mediocribus.

Stem erect, glabrous; leaves elliptic, smooth, serrate; racemes paniculate, secund; florets of the ray middle sized.

Sp. pl. 3. 2060. Pursh, 2. p. 538. Nutt. 2. p. 159.

I feel doubtful whether the plant I am about to describe really belongs to the S. Elliptica of Aiton. It agrees with it in many respects, but I have seen no leaves that would merit Miller's epithet of Latissimifolia.

Stem three to four feet high, glabrous, branches towards the summit numerous, obliquely expanding, recurved. *Leaves* oval-lanceolate, slightly acuminate, serrate, glabrous, scabrous along the margins, with the veins moderately conspicuous, stem leaves three to four inches long, one and a half wide. *Flowers* numerous in a crowded terminal panicle, racemes secund, expanding and more leafy than usual in this genus. *Scales* of the involucrum linear, acute, glabrous. *Florets* of the ray about seven, slender. *Seed* pubescent.

Grows in damp rich soils. Paris Island.

Flowers September—October.

15. ODORA. Ait.

S. caule erecto, pubescente; foliis lineari-lanceolatis, integerrimis, glabris, margine scabris; racemis paniculatis.

Stem erect, pubescent; leaves linear-lanceolate, entire, glabrous, scabrous along the margins.

Sp. pl. 3. p. 2061. Pursh, 2. p. 539. Nutt. 2. p. 159.

Stem about three feet high, branching and pubescent near the summit. *Leaves* sessile, linear-lanceolate, entire, thin, glabrous, but slightly scabrous along the margins. *Racemes* recurved, forming a pyramidal panicle.

Scales of the involucrum linear-lanceolate, nearly glabrous. *Seed* a little hairy.

Grows in rich dry soils, principally along the mountains, Canada to Carolina. Pursh.

Flowers September—October.

16. RETRORSA. Mich.

S. caule erecto, tereti, glabro; foliis arcte sessilibus, linearibus, superne attenuatis, glabris, pellucido punctatis, reflexis, margine asperis; paniculæ ramis recurvatis. E.	Stem erect, terete, glabrous; leaves closely sessile, linear, tapering to the summit, glabrous, pellucidly dotted, reflexed, rough along the margin; branches of the panicle recurved.

Mich. 2. p. 117. Pursh, 2. p. 539. Nutt. 2. p. 159.

Stem three to four feet high, pubescent towards the summit. *Leaves* sessile, somewhat amplexicaule, narrow, about two inches long, tapering almost from the base to the summit, slightly mucronate. *Panicle* composed of recurved racemes. *Scales* of the involucrum linear-lanceolate, slightly fringed, the interior much longer than the exterior. *Florets* of the ray three in each head, longer than the involucrum; of the disk three to four, yellow. *Seeds* a little hairy.

Grows in dry soils very common.

Flowers August—October.

17. TORTIFOLIA. E.

S. caule erecto, pubescente; foliis lineari-lanceolatis, subserratis, patulis, tortuosis, supra nervoque scabris, subtus subglabris; panicula pyramidata, racemis recurvis. E.	Stem erect, pubescent; leaves linear-lanceolate, slightly serrate, expanding, twisted, the upper surface and midrib scabrous, the under nearly glabrous; panicle pyramidal, racemes recurved.

S. Odora. Mich. 2. p. 118.

Stem about three feet high, very pubescent towards the summit. *Leaves* numerous, linear-lanceolate, with a few distinct serratures, sometimes pubescent underneath, obscurely triplinerved, generally twisted. *Flowers* in a very compact panicle, the racemes handsomely recurved, bearing near the base, a number of small buds that never mature. *Scales* of the involucrum linear-lanceolate, rather obtuse, nearly glabrous. *Florets* of the ray three to five; of the disk about the same number. *Seeds* pubescent.

Grows in dry pastures with the preceding, from which, however, it is very distinct.

Flowers August—October.

18. PYRAMIDATA. Pursh.

S. caule erecto, tereti, hirto; foliis oblongis, acutis, subamplexicaulibus, sessilibus, glabris, margine scabris, rariter obsolete dentatis; panicula nuda, pyramidata, ramis reflexis, pedunculis glabris.

Stem erect, terete, hispid; leaves oblong, acute, somewhat amplexicaule, sessile, glabrous, scabrous along the margins, rarely and obsoletely toothed; panicle naked, secund, pyramidal, branches reflected; peduncles glabrous.

Pursh, 2. p. 537. Nuttall, 2. p. 159.

Stem four to six feet high. *Leaves* oblong, subovate, acute, margin remotely serrulate, scabrous, nearly smooth, midrib on the under side pubescent, stem roughly pilose, summit virgate; branches small, leafy, paniculate, recurved, racemes filiform, secund, pubescent. *Peduncles* squamose. *Flowers* small, ligulate, minute. *Seed* smooth. Nearly allied to S. Retrorsa. Nuttall.

Grows in the pine barrens of Georgia.

Flowers August—September. Pursh.

19. CORYMBOSA. E.

S. caule erecto, glabro, ramulis hispidis; foliis inferioribus ob-

Stem erect, glabrous, the branches hispid; lower leaves oblong-longo-lanceolatis, superioribus ovatis, omnibus carnosis, rigidis, glabris, margine asperrimis ciliatisque; racemis corymbosis, inferioribus recurvis; ligulis elongatis. E.

lanceolate, the upper ovate, all carnose, rigid, glabrous, very rough and fringed along the margin; racemes corymbose, the lower recurved; florets of the ray long.

Stem four to six feet high, robust and virgately erect, branching near the summit, the young branches hirsute. *Leaves* closely sessile; the lower four to six inches long with fine indentations along the margins; the upper ovate and generally entire, all very rigid. *Flowers* large for this genus, in a terminal corymb; the lower branches recurved and secund. *Scales* of the involucrum oval, fringed or pubescent along the margins. *Florets* of the ray about ten; of the disk rather more numerous, all yellow. *Seed* glabrous.

This species is probably allied to S. Lævigata and Mexicana, but appears to be sufficiently distinct.

Grows in the middle districts of Georgia. Louisville, Mr. Jackson.

Flowers September—October.

20. SEMPERVIRENS.

S. caule erecto, glabro; foliis lineari-lanceolatis, subcarnosis, lævibus, integerrimis, margine scabris; racemis paniculatis, secundis, pedunculis pilosis.

Stem erect, glabrous; leaves linear-lanceolate, somewhat carnose, smooth, entire, scabrous along the margin; racemes paniculate, secund, peduncles hairy.

Sp. pl. 3. p. 2060. Pursh, 2. p. 538. Nutt. 2. p. 160.

Stem three to six feet high, erect, smooth, with axillary, recurved, somewhat expanding branches towards the summit. *Leaves* long, linear-lanceolate, acute, somewhat carnose, very smooth but scabrous along the margin. *Racemes* axillary, very slender, pubescent, with a small leaf at the base of each peduncle; partial peduncle longer than the involucrum. *Flowers* small. *Scales* of the involucrum linear-lanceolate. *Florets* of the ray about five. *Seeds* slightly pubescent.

Grows in damp rich soils.

Flowers September—October.

** *Racemis erectis.*	** *Racemes erect.*

21. LIMONIFOLIA. Persoon.

S. caule obliquo, glabro; foliis lanceolatis, subcarnosis, integerrimis, undique lævibus; racemis paniculatis, erectis; pedunculis squamosis, glabris; ligulis elongatis.	Stem oblique, glabrous; leaves lanceolate, somewhat carnose, entire, smooth on both surfaces; racemes panicled, erect; peduncles scaly, glabrous; florets of the ray long.

Persoon. Syn. 2. p. Nutt. 2. p. 159.
S. Mexicana. Sp. pl. 3. 2063. Pursh, 2. p. 541.

Racemes paniculate, not virgate, secund, nearly naked. *Peduncles* mostly one-flowered, generally pubescent. *Flowers* large, rays about ten. *Receptacle* punctate, margins of the alveoli pubescent. Nutt. This, I think, belongs decidedly to the last division of this genus, (racemis erectis,) Schweinitz.

Stem three to five feet high, glabrous, generally purple. *Leaves* sessile, somewhat amplexicaule, linear-lanceolate, acute, very glabrous, succulent, nerved, scabrous along the margins; the lower ones a foot in length. *Racemes* paniculate, generally erect, sometimes, though rarely, recurved. *Flowers* large. *Scales* of the involucrum linear, acute. *Florets* of the ray seven to ten. *Seed* pubescent.

I am uncertain whether the plant I have described really belongs to this species, about which I think there exists some uncertainty. The S. Sempervirens of Michaux evidently belongs to this species or to the S. Lævigata. In the S. Sempervirens I have followed the authority of Mr. Nuttall.

As the name of Mexicana was inaccurately applied to this species, I have concurred with Mr. Nuttall in restoring to it, at the suggestion of Persoon, the original name of Plukenet t. 235. f. 2.

Grows in the neighbourhood of salt water very abundantly.

Flowers August—October.

22. SPECIOSA. Nutt.

S. caule elato, lævi; ramis virgatis; foliis lanceolatis, subcoriaceis, margine scabris,	Stem tall, smooth; branches virgate; leaves lanceolate, somewhat coriaceous, sca-

inferioribus parce serratis; racemis erectis, compositis; pedunculis pubescentibus; ligulis 5, elongatis; seminibus glabris.

brous along the margins, the lower sparingly serrate; racemes erect, compound; peduncles pubescent: florets of the ray 5, long, seed glabrous.

Nutt. 2. p. 160.

Stem three to six feet high, smooth, slightly furrowed, the young branches pubescent. *Leaves* lanceolate, broad, coriaceous with pellucid veins, the upper leaves very entire, but scabrous along the margins, the lower remotely and slightly serrate. *Racemes* numerous, erect, compound, with the flowers somewhat crowded towards the summit. *Scales* of the involucrum oblong, rather obtuse. *Florets* of the ray 5, nearly twice as long as the involucrum. *Seed* glabrous.

This plant, which appears to agree with the S. Speciosa of Nuttall, grows abundantly in dry rich soils, in the western districts of Georgia, and near the Alabama.

Flowers September—October.

23. PUBESCENS. E.

S. caule erecto, ramoso, pubescente; foliis longo-lanceolatis, basi attenuatis, pubescentibus, inferioribus serratis; racemis erectis, paniculatis; ligulis mediocribus. E.

Stem erect, branching, pubescent; leaves long-lanceolate, tapering at base, pubescent, the lower serrate; racemes erect, paniculate; florets of the ray middle sized.

Stem erect, three to four feet high, pubescent, slightly scabrous, generally coloured, with numerous rigidly erect branches towards the summit. *Leaves* long-lanceolate; the upper softly pubescent and generally entire, the lower almost spathulate, slightly scabrous and serrated towards the summit. *Flowers* numerous in a compound terminal panicle. *Scales* of the involucrum subulate, pubescent. *Florets* of the ray seven to ten, slender. *Seeds* minutely pubescent.

This species in habit bears much resemblance to the S. Speciosa; it differs by its pubescence, by its leaves, which are thinner, narrower, more tapering at base, by smaller flowers; it appears also to be allied to the S.

Viminea, with which I am unacquainted, but differs by its uniform pubescence.

Grows in damp soils near Louisville, Georgia.
Flowers October.

24. Pauciflosculosa. Mich.

S. glabra, suffruticosa; foliis lanceolatis, obtusis, enervibus; panicula composita, multiflora, fasciculis erectis; involucris oblongis, 5-floris, radio unico.

Glabrous, somewhat shrubby; leaves lanceolate, obtuse, nerveless; panicle compound, many flowered, the clusters erect; involucrum oblong, 5-flowered; floret of the ray, one.

This species I have never noticed.
Grows in the dry pine barrens of Carolina. Mich.
Flowers August—October.

25. Bicolor. Lin.

S. caule foliisque ellipticis, pilosis, inferioribus serratis; ramis foliolosis, racemis erectis; involucri squamis obtusis.

Stem and leaves hairy; leaves elliptic, the lower serrate; branches leafy; racemes erect; scales of the involucrum obtuse.

Sp. pl. 3. p. 2061. Mich. 2. p. 116. Pursh, 2. p. 539. Nutt. 2. p. 160.

Stem erect, two to four feet high, very pubescent. *Leaves* oblong-lanceolate, acute, the lower large, attenuate at base, acutely serrate, all covered with a soft and whitish pubescence. *Flowers* numerous, rather large, in short clusters, forming a compact raceme along the upper part of the stem. *Scales* of the involucrum linear-lanceolate, slightly pubescent, rather obtuse. *Florets* of the ray five to eight, nearly white. *Seed* pubescent.

Grows in dry soils along the mountains from Carolina to Canada.
Flowers September—October.

26. Petiolaris. Ait.

S. caule erecto, villoso; foliis ellipticis scabriusculis, petiolatis; racemis erectis; ligulis elongatis.	Stem erect, villous; leaves elliptic, somewhat scabrous, petiolate; racemes erect; florets of the ray long.

Sp. pl. 3. p. 2062. Pursh, 2. p. 539. Nutt. 2. p. 160.

Stem two to three feet high, erect, striate, almost furrowed near the summit, very villous. *Leaves* large, oval-lanceolate, nearly acute, hairy and slightly scabrous on the upper surface, almost villous underneath; the upper ones nearly sessile, the lower attenuated into a sheath-like petiole, four to six inches long, serrate. *Flowers* in a long, terminal, somewhat crowded raceme, composed of small erect branches. *Scales* of the involucrum oblong, slightly pubescent. *Florets* of the ray six to eight, yellow. *Seed* glabrous.

Specimens of this plant collected by Dr. M'Bride are marked as I have described them. In specimens sent from Pennsylvania by Dr. Muhlenberg, the leaves are nearly glabrous, only scabrous along the margins, and more entire.

Grows in the mountains of Carolina.

Flowers August—September.

27. Stricta. Ait.

S. caule erecto, glabro; foliis caulinis lanceolatis, integerrimis, glabris, margine scabris, radicalibus serratis; racemis paniculatis, erectis; pedunculis glabris.	Stem erect, glabrous; leaves of the stem lanceolate, entire, glabrous, scabrous along the margins, of the root serrate; racemes paniculate, erect; peduncles glabrous.

Sp. pl. 3. p. 2062. Pursh, 2. p. 540. Nutt. 2. p. 160.

About two feet high, very smooth. Pursh.

This species I have never seen. Dr. Schweinitz remarks that with him it never branches.

Grows in sandy woods, New-Jersey to Carolina. Pursh.

28. VIRGATA. Mich.

S. caule simplici, lævi; foliis glabris, oblongo-lanceolatis, subobtusis, erectis, punctatis, margine scabris, inferioribus parce serratis; racemis erectis, virgatis.

Stem simple, smooth; leaves glabrous, oblong-lanceolate, rather obtuse, erect, dotted, scabrous along the margin, the lower sparingly serrate; racemes erect, virgate.

Mich. 2. p. 117. Pursh, 2. p. 538. Nutt. 2. p. 160.

Root perennial. *Stem* very erect, two to four feet high, attenuated towards the summit, striate, nearly glabrous. Lower *leaves* nearly a foot long, spathulate-lanceolate, the upper diminishing, sessile, appressed, oblong-lanceolate, all nerved, somewhat carnose, scabrous and serrulate along the margins, sometimes acute, dotted, veins pellucid. *Flowers* rather large, in erect, appressed racemes. *Scales* of the involucrum linear-lanceolate, acute, pubescence appressed. *Florets* of the ray five to seven, with a scale sometimes attached to the tube of the corolla, of the disk about eight. *Seed* striate, hairy. *Pappus* hairy, somewhat scabrous.

Grows in damp soils, along the margins of swamps.

Flowers June—October.

29. PULVERULENTA. Nutt.

S. caule simplici, foliisque pulverulento-pubescente; foliis sessilibus, inferioribus ellipticis, serratis, superioribus obovatis, integerrimis, margine scabris; racemis erectis, spiciformibus; ligulis (10) elongatis.

Stem simple and with the leaves covered with a pulverulent pubescence; leaves sessile, the lower elliptic, serrate, the upper obovate, entire, scabrous along the margin; racemes erect, spiciform; florets of the ray long.

Nutt. 2. p. 161.

A species which might be confounded with the preceding, though quite distinct. Nutt.

Stem three to four feet high, attenuated, sometimes reddish. The lower *leaves* acute, and somewhat resembling those of the Spiræa Salicifolia.

Grows in Georgia and Florida, where it was first detected by Dr. Baldwin.
Flowers—

30. Erecta? Pursh.

S. caule simplici pedunculisque pubescente; foliis lanceolatis, utrinque acutis, glabris, venosis, margine scabris; racemis brevibus, erectis, axillaribus terminalibusque.	Stem simple and with the peduncles pubescent; leaves lanceolate, acute at each end, glabrous, veiny, scabrous along the margins; racemes short, erect, axillary and terminal.

Pursh, 2. p. 542. Nutt. 2. p. 161.

Stem about two feet high, erect, simple in my specimens, glabrous, excepting towards the summits. *Leaves* lanceolate, somewhat coriaceous, veined, glabrous, excepting the margins, which under a lens are fringed with short rigid hairs, acute at base, the lower appearing slightly petiolate, more uniform in their size than usual in this genus. *Racemes* axillary, one to three inches long, erect, rigid, flowers rather large. *Scales* of the involucrum linear, rather obtuse. *Florets* of the ray seven to ten, pale. *Seed* glabrous.

There is great uncertainty still about this species. The plants described by Pursh, Nuttall, and myself, differ at least in pubescence. The racemes are collected more towards the summit than in S. Flexicaulis, from which it is in other respects sufficiently distinct.

Grows in damp soils.
Flowers September—October.

31. Cœsia. Aiton?

S. caule erecto, lævi; foliis lanceolatis, acuminatis, glabris, serratis; racemis erectis; ligulis mediocribus.	Stem erect, smooth; leaves lanceolate, acuminate, glabrous, serrate; racemes erect; florets of the ray middle sized.

Sp. pl. 3. 2062. Pursh, 2. p. 540. Nutt. 2. p. 161.

Stem two to three feet high, smooth, tinged with purple and having a glaucous hue, bearing many slender, obliquely expanding branches. *Leaves* sessile, lanceolate, acuminate, finely and acutely serrate, pale underneath, slightly scabrous along the margins. *Racemes* generally erect, sometimes slightly recurved, not very compact. *Scales* of the involucrum linear, rather obtuse, slightly pubescent along the margins. *Florets* of the ray about five, rather small. *Seed* nearly glabrous.

Grows in the upper districts of Carolina and Georgia.

Flowers September.

32. LITHOSPERMIFOLIA. Willd.

S. caule ramoso, pubescente; foliis lanceolatis, utrinque scabris, attenuatis, 3-nervibus, integerrimis; racemis erectis, ligulis elongatis.	Stem branching, pubescent; leaves lanceolate, scabrous on both surfaces, tapering, 3-nerved, entire; racemes erect; florets of the ray long.

Willd. enum. 891. Pursh, 2. p. 541. Nutt. 2. p. 161.

This species I have never seen. Dr. Schweinitz, in some valuable MS. notes on this genus which I have received from him, remarks that its leaves and their habit determine this species well; rare about Salem, North-Carolina.

Grows in sandy barren soils New-Jersey to Carolina. Pursh.

Flowers August—October.

33. FLEXICAULIS. L.

S. caule flexuoso, glabro, angulato; foliis ovatis, acuminatis, serratis, glabris; racemis erectis, axillaribus; ligulis mediocribus.	Stem flexuous, glabrous, angled; leaves ovate, acuminate, serrate, glabrous; racemes erect, axillary; florets of the ray middle sized.

Sp. pl. 3. p. 2064. Mich. 2. p. 118. Pursh, 2. p. 542. Nutt. 2. p. 161.

Stem two to three feet high, slender, slightly flexuous, glabrous. *Leaves* ovate-lanceolate, acuminate, acutely serrate, glabrous, reticulately veined, acute at base. *Racemes* scattered along the stem, small, axillary, erect. *Scales* of the involucrum linear, rather obtuse. *Florets* of the ray about five; of the disk seven to eight. *Seeds* hairy.

Under this name I received a specimen from Dr. Muhlenberg which evidently belongs to the S. Axillaris of Pursh. It is distinguished by leaves narrow-lanceolate, remotely serrulate, acute or very slightly acuminate, and by compact, somewhat globular racemes clustered along the stem. It appears to me a very distinct species and was so considered by Dr. Muhlenberg, who arranged our common S. Flexicaulis as the S. Latifolia. I have been induced to add this note because the S. Axillaris has been omitted by Mr. Nuttall in his enumeration of our species; and Dr. Schweinitz remarks, "what I call by this name is very doubtful; it may belong to S. Flexicaulis, but differs in habit."

Grows in the upper districts of Carolina and Georgia—not common in the low country.

Flowers September—October.

34. GLOMERATA.

S. caule humili, simplicissimo; foliis glabris, oblongo-lanceolatis, serratis; racemo simplici, glomerulis axillaribus; superioribus capitato-congestis; involucris turgidis, multifloris.	**Stem humble, simple; leaves glabrous, oblong-lanceolate, serrate; raceme simple, composed of axillary heads, the upper ones clustered; involucrum turgid, many-flowered.**

Mich. 2. p. 117. Pursh, 2. p. 542.

Lower *leaves* broad, oval, acuminate, serrate, nearly allied to Aster. Nuttall. Distinguished among the rest by its deep and close serratures, and the capitate form of the axillary racemes. Schweinitz.

This species I have not seen.

Grows in the mountains of Carolina. Michaux. Near Salem, North-Carolina. Schweinitz.

Flowers—

35. SQUARROSA. Muhl.

S. caule erecto, ramoso, pubescente; foliis lanceolatis, acutis, serratis, subtus molliter pubescentibus, inferioribus basi attenuatis; racemis compositis, erectis, floribus majusculis; involucris squarrosis.

Stem erect, branching, pubescent; leaves lanceolate, acute, serrate, underneath softly pubescent, the lower tapering at base; racemes compound, erect; flowers large; involucrum squarrose.

Nutt. 2. p. 161.

Stem erect, robust, three to five feet high, striate, pubescent. *Leaves,* except the lowest, sessile, lanceolate, serrate towards the summit; slightly pubescent on the upper surface, very pubescent underneath. *Flowers* large, in compound erect racemes. *Involucrum* imbricate, the scales linear, reflexed like those of the Aster. *Florets* of the ray about ten, scarcely longer than the involucrum; of the disk sixteen to twenty. *Seeds* glabrous. *Pappus* hairy, scabrous.

I have described the southern species, on which this name was first imposed by Dr. Muhlenberg. It appears to differ in some though not very important characters, from the northern plant described by Mr. Nuttall. It is one of our most ornamental species; it has the structure of an Aster, with the appearance and peculiar fragrance of a Solidago.

Grows in dry sandy soils.

Flowers in September.

36. ANGUSTIFOLIA. E.

S. caule erecto, glabro; foliis subulato-linearibus, integerrimis, glabris; racemis erectis, paniculatis; ligulis mediocribus. E.

Stem erect, glabrous; leaves subulate, nearly linear, entire, glabrous, racemes erect, paniculate; florets of the ray middle sized.

Stem two to three feet high, very glabrous, generally coloured, with many slender, erect branches near the summit. *Leaves* sessile, subulate, sometimes lanceolate-linear, acute, those of the stem very entire, very glabrous, though slightly scabrous along the margins, the upper axils frequently bearing the rudiment of a small branch, producing numerous small almost setaceous leaves. *Flowers* in a compound terminal panicle. *Branches* slender but generally erect. *Scales* of the involucrum linear-lanceolate, glabrous. *Florets* of the ray seven to ten, slender. *Seed* slightly pubescent. Allied to S. Viminea.

Grows in rich soils. Found on Paris Island, near Beaufort.

Flowers September—October.

37. SALICINA. E.

S. caule elato, gracili, superne pubescente scabriusculo; ramis virgatis, elongatis, erectis; foliis lanceolatis, supra scaberrimis, subtus glabris, inferioribus serratis; racemis subsecundis, ramulis brevibus, rariter recurvis. E.

Stem tall, slender, pubescent towards the summit, somewhat scabrous; branches virgate, long, erect; leaves lanceolate, above very scabrous, glabrous underneath, the lower serrate; racemes somewhat secund, branches short, sometimes recurved.

Stem four to five feet high, when old nearly glabrous, when young pubescent and slightly scabrous, generally coloured and bearing towards the summit a few slender erect branches one to two feet long. *Leaves* sessile, the lower three to four inches long, scarcely one wide, regularly lanceolate, very scabrous on the upper surface, very glabrous and paler on the under surface; the upper ones diminishing in size. *Flowers* in long slender racemes, in which the small branches are sometimes recurved. *Scales* of the involucrum oblong, rather acute. *Florets* of the ray about five, very slender. *Seed* nearly glabrous.

This plant, which I can refer to none of our described species, and of which the location appears somewhat questionable, is very common in the oak land in the western districts of Georgia.

Flowers September—October.

38. ELATA? Pursh.

S. caule tereti, piloso, superne tomentoso; foliis ovali-lanceolatis,

Stem terete, hairy, tomentose towards the summit; leaves oval-acutis, subintegerrimis, venosis, subtus tomentoso-pubescentibus; racemis erectis, paniculatis; ligulis elongatis. E.

lanceolate, acute, nearly entire, veiny, tomentose underneath; racemes erect, paniculate; florets of the ray long.

Pursh, 2. p. 543. Nutt. 2. p. 162.

I know not whether the species which in unison with Dr. Schweinitz I am describing as the S. Elata, be the real plant of Pursh, whose description is very brief. It accords, however, with it in its leading characters.

Stem two to three feet high, terete, pubescent, when young tomentose, branches erect, not numerous. *Leaves* sessile, rather small, nearly entire, with elevated veins, pubescent, underneath almost tomentose. *Scales* of the involucrum linear-lanceolate, acute, pubescent. *Florets* of the ray seven to ten, nearly twice as long as the involucrum; of the disk ten to twelve. *Seed* glabrous.

Grows in pine barrens near Louisville, Georgia. Mr. Jackson. Salem, North-Carolina. Dr. Schweinitz.

Flowers September.

39. Rigida. L.

S. caule foliisque pilosis, scabris; foliis ovato-oblongis, caulinis integerrimis, infimis serratis; ramis floriferis paniculatis; racemis compactis, sub fastigiatis, ligulis elongatis.

Stem and leaves hairy, scabrous; leaves ovate, oblong, those of the stem entire, the lowest serrate; flower bearing branches paniculate; racemes compound, nearly fastigiate; florets of the ray long.

Sp. pl. 3. p. 2067. Mich. 2. p. 118. Pursh, 2. p. 543. Nutt. 2. p. 162.

Stem three to four feet high, slightly angled, very pubescent, when young tomentose, branches very numerous, forming a somewhat fastigiate corymb. *Leaves* sessile, approximate, very pubescent and scabrous, the upper very entire. *Flowers* large for this genus, somewhat clustered near the summits of the branches. *Scales* of the involucrum oblong, obtuse, pubescent. *Florets* of the ray seven to ten; of the disk numerous. *Seeds* glabrous.

Grows in the mountains of Carolina. Mich.

Flowers September—October.

40. GRAMINIFOLIA.

S. caule angulato, ramosissimo; foliis lanceolato-linearibus, integerrimis, erectiusculis, 3—5 nervibus, scabriusculis, nervis subtus pilosis, axillis nudis; corymbis terminalibus, fastigiatis, ramulis capitatis, ligulis altitudine disci.

Stem angled, branching; leaves lanceolate - linear, entire, nearly erect, 3—5 nerved, a little scabrous, the nerves hairy underneath, axils naked; corymbs terminal, fastigiate, with the heads clustered; florets of the ray as long as the disk.

Chrysocoma Graminifolia. Sp. pl. 1178.
Euthamia Graminifolia. Nutt. 2. p. 162.
Solidago Lanceolata. Willd. Sp. pl. 3. 2060. Michaux var. Major. 2. p. 116. Pursh, 2. p. 540.

Stem two to three feet high, slightly furrowed, the angles pubescent, branches very numerous, obliquely expanding. *Leaves* numerous, lanceolate-linear, never wide enough to deserve the appellation of lanceolate, obscurely three to five nerved, the nerves underneath pubescent. *Flowers* numerous, clustered, in a terminal corymb. *Scales* of the involucrum numerous, linear-lanceolate, slightly viscid. *Florets* of the ray about ten, short; of the disk not numerous, rarely exceeding six. *Seeds* villous. *Receptacle* setose. Nuttall.

Specimens of this plant from Connecticut agree exactly with ours, excepting that in our southern species the heads are, I think, smaller, and the florets of the ray more distinctly exserted.

Grows in damp rich soils; not so common as the succeeding species.

Flowers September—October.

41. Tenuifolia.

S. caule scabro, angulato, corymboso-ramoso; foliis angustissime linearibus, patulis, obsolete 3-nervibus, scabris, axillis foliosis; corymbis terminalibus fastigiatis, ramulis capitatis, ligulis disco vix altioribus.

Stem angled, scabrous, with fastigiate branches; leaves very narrow, linear, expanding, obscurely 3-nerved, scabrous, the axils leafy; corymbs terminal, fastigiate, heads clustered; florets of the ray scarcely as long as the disk.

Pursh, 2. p. 540.
Euthamia Tenuifolia. Nutt. 2. p. 162.

Very similar to the preceding species, but every way smaller.

Stem about two feet high. *Leaves* linear, scabrous along the margins, obscurely three-nerved, covered with glandular dots. *Scales* of the involucrum viscid. *Florets* of the ray about ten, not much longer than the involucrum. *Seeds* villous.

Grows very common in dry pastures.

Flowers September—October.

ERIGERON. Gen. Pl. 1287.

Involucrum imbricatum. *Corollulæ* radii lineares, plurimæ. *Pappus* duplex, exterior minimus, interior pilosus. *Receptaculum* nudum.

Involucrum imbricate. *Florets* of the ray linear, numerous. *Pappus* double, the exterior very small, the interior hairy. *Receptacle* naked.

1. Nudicaule.

E. glabrum; foliis radicalibus spathulato-lanceolatis, acutis, sub-

Glabrous; leaves of the root spathulate-lanceolate, acute, slightly

dentatis, caule simplicissimo, subaphyllo, elongato; corymbis terminalibus paucifloris; radiis longitudine involucri.

toothed; stem simple, nearly leafless, long; terminal corymb few-flowered, rays as long as the involucrum.

Mich. 2. p. 224. Pursh, 2. p. 533. Nutt. 2. p. 147.
Doronicum Lævifolium. Walt. p. 205?

Root perennial, sparingly stoloniferous. *Stem* erect, about two feet high, a little pubescent and scabrous near the summit. *Leaves* of the root spathulate-lanceolate, irregularly toothed, glabrous, somewhat succulent; of the stem similar, but small and scattered, and sometimes slightly fringed near the base. *Flowers* few, sometimes only three or four, in a small terminal corymb. *Involucrum* imbricate, the leaves subulate, acute, a little hairy at base. *Florets* of the ray numerous, (about thirty) linear, obscurely three-toothed, white, twice as long as the involucrum; of the disk very numerous, tubular, five-toothed at the summit, greenish yellow. *Stamens* of the ray none; of the disk, short. *Style* short, two-cleft. *Stigmas* obtuse, appressed. *Seeds* hispid. *Pappus* hairy. *Receptacle* flat, naked, dotted.

Grows in flat and damp pine barrens.

Flowers May—June; sometimes again in the autumn.

2. BELLIDIFOLIUM.

E. hirsutum, incanum; foliis radicalibus obovatis, subserratis, caulinis sessilibus, sparsis, oblongo-lanceolatis; caule 3—5 floro; radiis involucro subduplo longioribus.

Hirsute, hoary; leaves of the root obovate, slightly serrate, of the stem, sessile, scattered; oblong - lanceolate; stem 3—5 flowered; rays twice as long as the involucrum.

Sp. pl. 3. p. 1958. Pursh, 2. p. 502. Nutt. 2. p. 148.
E. Pulchellum. Mich. 2. p. 124.

Root perennial, stoloniferous. *Stem* twelve to eighteen inches high, and with the *Leaves* and *Involucrum* very hairy. Leaves of the root spathulate, obovate, dentate, the lower stem leaves similar, the upper small, lanceolate. *Flowers* few, terminal, large for this genus, the one on the central stem, generally larger than those on the lateral branches. *Involucrum* somewhat imbricate, but nearly equal in a double series; leaves linear-lanceolate, very acute. *Florets* of the ray linear, ligulate, two-toothed? at the summit, pale blue, nearly twice as long as the disk; stamens none; style much longer than the tube, two-cleft; stigma simple, expanding. Florets of the disk small, tubular, yellowish, five-toothed at the summit. *Stamens* as long as the corolla. *Style* longer than the stamens. *Stigma* thickened, erect. *Seed* oblong, compressed, slightly winged, nearly glabrous. *Pappus* scabrous. *Receptacle* slightly convex, naked, dotted.

Grows in dry shaded soils, near Beaufort, near Ashley Ferry, Columbia, Mr. Herbemont.

Flowers March—April.

3. Strigosum?

E. pubescens, scabriusculum; foliis linearibus, elongatis, inferioribus lineari-lanceolatis, denticulatis; caule laxe paniculato; floribus terminalibus.	Pubescent, slightly scabrous; leaves linear, long, the lower linear-lanceolate, denticulate; stem loosely paniculate; flowers terminal.

Sp. pl. 3. p. 1953.
Doronicum Ramosum. Walt. p. 205?

Root perennial. *Stem* about two feet high, slightly furrowed, a little scabrous, with the leaves and involucrum clothed with white, appressed hair, giving the plant a somewhat hoary aspect. *Leaves* of the root long, narrow, lanceolate, denticulate; of the stem long, linear, entire. *Flowers* in a loose terminal panicle. *Involucrum* imbricate, with the leaves subulate, appressed. Florets of the ray linear, twice as long as the involucrum, two to three cleft at the summit, white. *Style* twice as long as the tube, slightly two-cleft; stigmas obtuse; seeds oblong, hispid; pappus, the exterior composed of minute scales, the interior wanting. Florets of the disk very numerous, tubular, yellow, with the border five-cleft. *Stamens* very short. *Style* scarcely longer than the stamens. *Seeds* hispid. *Pappus* double, the exterior composed of minute scales, the interior of a few hairy rays as long as the corolla. *Receptacle* slightly convex.

Under the name of E. Strigosum, I received from Dr. Muhlenberg, and under that of E. Nervosum, I received from Dr. Schweinitz, (Salem, North-Carolina,) specimens apparently of the same plant. They both differ from the one I have described in being less hairy, and having the florets of the ray much wider, in both the interior pappus of the ray was wanting. Perhaps these are distinct, and may be the E. Nervosum of Pursh, but not of Willdenow.

Grows in dry sandy pastures.

Flowers May—August.

4. LONGIFOLIUM. La Marck.

E. glaberrimum; caule virgatim paniculato, ramis strictis; foliis longissime-linearibus, strictis; involucris ovatis; radiis flavis, vix involucro longioribus.

Very glabrous; stem virgately paniculate, branches strait; leaves very long, linear, straight; involucrum ovate; florets of the ray yellow, scarcely longer than the involucrum.

Pursh, 2. p. 534.

Grows in Carolina. La Marck.
Flowers August—September.
Does it belong to this genus?

5. AMBIGUUM. Nutt.

E. pubescens, scabriusculum; foliis linearibus, inferioribus subserrulatis; floribus parvulis, subbinis, axillaribus terminalibusque; involucro hemisphærico.

Pubescent, somewhat scabrous; leaves linear, the lower slightly serrulate; flowers small, generally in pairs, axillary and terminal; involucrum hemispherical.

Nutt. 2. p. 147.

Stem simple, terete, leafy, eighteen inches high. *Leaves* two to four inches long, two to four lines wide, attenuated at base. *Flowers* about eight to ten, small and pale yellow. *Pappus* double? Nutt.

This species I have not noticed. The E. Carolinianum of Linnæus to which I was accustomed to refer the E. Strigosum of this sketch, and to which Mr. Nuttall alludes under this species, if established on the figure of Dillenius, (Hort. Elth. t. 306. f. 394.) belongs, I think, unquestionably to another genus.

Grows in Georgia.
Flowers.

6. Philadelphicum?

E. pubescens; foliis inferioribus cuneato-obovatis, sinuato-dentatis, caulinis oblongo-lanceolatis, amplexicaulibus; floribus subcorymbosis; radiis capillaceis, involucro duplo-longioribus.

Pubescent; lower leaves cuneate, obovate, sinuate, toothed, stem leaves oblong-lanceolate, amplexicaule; flowers somewhat corymbose; florets of the ray capillary, twice as long as the involucrum.

Sp. pl. 3. p. 1957? Mich. 2. p. 223. Pursh, 2. p. 533. Nutt. 2. p. 148.

Root perennial. *Stem* one to two feet high, slightly furrowed, pubescent, with the hairs expanding. *Leaves* of the root sometimes deeply sinuate, the upper leaves becoming gradually entire, all amplexicaule. *Flowers* in a loose corymb. *Involucrum* many leaved; leaves subulate, nearly equal, arranged nearly in two series. *Florets* of the ray very numerous, (one to two hundred) pale purple, slightly two-cleft at the summit; stamens none; style longer than the tube, two-cleft: of the disk very numerous, yellow, five-cleft at the summit; stamens and style about as long as the corolla. *Seed* oblong, hispid; pappus pilose, under a lens scabrous.

The exterior pappus is very inconspicuous if not entirely wanting in this species; the florets of the ray have the interior pappus. This is scarcely the E. Philadelphicum of Linnæus.

Grows very common in pastures and fields.

Flowers February—June.

7. Quercifolium. La Marck.

E. tenue pubescens; foliis lanceolatis, acutis, inferioribus sublyratis, grosse-dentatis, supremis integerrimis; caule subsimplici, summitate

Finely pubescent; leaves lanceolate, acute, the lower somewhat lyrate, and coarsely toothed, the upper entire; stem nearly sim-

3-floro; radiis involucro duplo longioribus.

ple, few-flowered (3) at the summit; florets of the ray twice as long as the involucrum.

La Marck encyc. 8. p. 491. Pursh, 2. p. 533.

Not above a span high; flowers pale blue or white. Pursh.

I have not been able to refer to the figure of Lam. (illust. t. 681. f. 4.) for this plant, but it appears to me probable that it is only the preceding species which he has described under this name, perceiving that it did not correspond with the original description of the E. Philadelphicum.

Grows in Carolina.

Flowers July and August. Pursh.

** *Pappo simplici Cœnotus.* Nuttall.

** *Pappus simple.*

8. CANADENSE.

E. caule hispido, paniculatim ramosissimo; foliis lineari-lanceolatis, ciliatis; involucris cylindricis; radiis confertis, involucro vix longioribus.

Stem hispid, paniculate, profusely branched; leaves linear-lanceolate, fringed; involucrum cylindrical; florets of the ray crowded, scarcely longer than the involucrum.

Sp. pl. 3. p. 1954. Mich. 2. p. 123. Pursh, 2. p. 534. Nutt. 2. p. 148.

Senecio Ciliatus. Walt. p. 208?

Root annual. *Stem* two to eight feet high, hairy, diffusely branched. *Leaves* long, very narrow, slightly scabrous on the upper surface, the lower ones sparingly toothed. *Flowers* racemose on the branches, forming an oblong panicle. *Involucrum* imbricate, leaves very narrow, acute, membranaceous at the margins. *Florets* of the ray capillary, very numerous, scarcely longer than the involucrum; of the disk four-cleft, yellowish. *Seeds* oblong, sprinkled with short hairs. *Pappus* simple, hairy. *Receptacle* naked.

Grows in pastures and fields, very common, preferring dry soils.

Flowers June—September.

9. Pusillum. Nutt.

E. gracile; caule glabro; foliis lineari-lanceolatis, integris, marginibus scabris; panicula subsimplici, ramulis divaricatis.

Slender; stem glabrous; leaves linear-lanceolate, entire, scabrous along the margins; panicle nearly simple, the branches divaricate.

Nutt. 2. p. 148.

Plant small. *Stem* four to six inches high; panicle simple, somewhat fastigiate, branches naked, or merely furnished with small scales, each perjecting two or three flowers. Nutt.

This small and perhaps doubtful species is also found in Carolina, and if this section should be established as a genus, new species may be detected. We have a very large variety six to eight or ten feet high, which I think will also be found sufficiently distinct from the common E. Canadense.

Grows with the preceding.

Flowers through the summer.

BOLTONIA. Gen. Pl.

Receptaculum favosum, hemisphæricum. *Pappus* dentato-aristatus subbicornis. *Corollulæ* radii plurimæ. *Involucrum* imbricatum.

Receptacle favose, hemispherical. *Pappus* awned, 2 generally conspicuous. *Florets* of the ray numerous. *Involucrum* imbricate.

1. Asteroides.

B. foliis integerrimis; floribus longe pedunculatis; seminibus ovalibus, glabris, submuticis.

Leaves entire; flowers on long peduncles; seed oval, glabrous, scarcely awned.

Sp. pl. 3. p. 2162. Mich. 2. p. 132. Pursh, 2. p. 561. Nutt. 2. p. 168.

Chrysanthemum Carolinianum. Walt. p. 204.

Root perennial. *Stem* erect, about two feet high, smooth, somewhat striate. *Leaves* alternate, sessile, lanceolate, smooth, with the margins scabrous. *Panicle* composed of a few rigid, one-flowered branches. *Involucrum* imbricate, with the scales subulate, nearly equal. *Florets* of the ray linear, entire, white, tinged with pink; of the disk yellow. *Seeds* compressed, crowned with a five-toothed margin. *Receptacle* naked, hemispherical. Sp. pl. l. c.

Grows along the banks of swamps and ponds in Carolina, Pursh. Walter appears to have seen this plant. I have not met with it in the low country of Carolina.

Flowers August—September.

2. Glastifolia?

B. foliis inferioribus serratis; floribus breviter pedunculatis; seminibus obcordatis, conspicue alatis, pubescentibus; aristis pappi 2—4, elongatis, scabris.

Lower leaves serrate; flowers on short peduncles; seed obcordate, conspicuously winged, pubescent; awns of the pappus 2—4, long, scabrous.

Sp. pl. 3. p. 2161. Mich. 2. p. 132. Pursh, 2. p. 561. Nutt. 2. p. 168.

Root perennial. *Stem* erect, branching, three to four feet high, slightly angled, very smooth. *Leaves* long-lanceolate, acute, somewhat glaucous with the margins cartilaginous, the lower ones remotely toothed, the upper ones obscurely five-nerved. *Flowers* solitary, on long scattered branches. *Involucrum* imbricate, leaves subulate, glabrous, with the margins slightly serrulate. *Florets* of the ray about thirty-six, white, with their summits slightly three-toothed; of the disk numerous, yellow. *Stamens* a little longer than the florets. *Style* as long as the stamens, two-cleft. *Seeds* pubescent, compressed, obovate, of the ray three-winged; of the disk two-winged; the wings fringed. *Pappus* of ten or more scabrous bristles, of which two, three, or four are sometimes long, the rest very short.

Grows in the river swamps, common on the Ogeechee.

Flowers August—November.

3. DIFFUSA. E.

B. glaberrima; foliis lineari-lanceolatis, margine scabris; panicula diffusa, multiflora; seminibus obovatis, emarginatis, vix alatis; aristis pappi duabus longioribus. E.

Leaves linear-lanceolate, scabrous along the margin; panicle diffuse, many flowered; seed obovate, emarginate, slightly winged; awns of the pappus 2 long.

Root perennial? *Stem* two to three feet long, striate, glabrous, branching diffusely almost from the root, branches slender, expanding. *Leaves* two to three inches long, glabrous, entire? scabrous along the margins. *Flowers* small, numerous, in a loose spreading panicle. *Peduncles* one to two inches long, one-flowered. *Scales* of the involucrum linear, imbricate, glabrous. *Florets* of the ray numerous, linear, nearly white; of the disk numerous, yellow. *Seed* obovate, compressed, emarginate, scarcely winged the crown fimbriate, or fringed with small bristles, of which two are much longer than the rest and are about one third of the length of the seed.

Grows in damp rich soils between the Chatahouchie and Alabama.

Flowers September—October.

CHRYSANTHEMUM. GEN. PL. 1307.

Receptaculum nudum. *Pappus* nullus. *Calyx* hemisphæricus, imbricatus, squamis marginalibus membranaceis.

Receptacle naked. *Pappus* 0. *Calyx* hemispherical, imbricate. *Margins* of the scales membranaceous.

1. LEUCANTHEMUM.

C. foliis amplexicaulibus, lanceolatis, serratis, basi inciso dentatis; caule erecto, ramoso.

Leaves amplexicaule, lanceolate, near the base deeply notched and toothed; stem erect, branching.

Sp. pl. 3. p. 2122. Pursh, 2. p. 526. Nutt. 2. p. 168.
Chrysanthemum serotinum. Walt. p. 206.

Root perennial. *Stem* one to two feet high, sparingly branched, nearly glabrous. *Leaves* alternate, sessile, amplexicaule, glabrous, oblong, toothed or notched, towards the base nearly pinnatifid. *Flowers* solitary on the branches. *Involucrum* imbricate, leaves subulate, glabrous, with the margins membranaceous. *Florets* of the ray about thirty, white, obscurely three-toothed at the summit; of the disk very numerous, yellow. *Stamens* short. *Style* longer than the stamens, two-cleft. *Seeds* furrowed. *Receptacle* naked.

Grows in clay soils. An exotic now naturalized, particularly in the upper country.

Flowers May—July.

HELENIUM. GEN. PL. 1299.

Involucrum simplex, multipartitum. *Corollulæ* radii semitrifidæ. *Pappus* paleaceus, paleis 5, aristatis. *Receptaculum* globosum, nudum, radii paleaceum.

Involucrum simple, many parted. Rays of the corolla deeply 3-cleft. *Pappus* chaffy, chaff 5 awned. *Receptacle* globose, naked, of the ray chaffy.

1. AUTUMNALE.

H. foliis lanceolatis, serratis, decurrentibus; floribus corymbosis; corollulis disci 5-fidis; radii planis, reflexis.

Leaves lanceolate, serrate, decurrent; flowers in corymbs; florets of the disk 5-cleft; of the ray flat, reflexed.

Sp. pl. 3. p. 1120. Mich. 2. p. 133. Pursh, 2. p. 560. Nutt. 2. p. 173.

Root perennial. *Stem* two to three feet high, branching towards the summit, glabrous and winged by the decurrent leaves. *Leaves* alternate, sessile, doubly serrate, glabrous. *Flowers* in small corymbs, the peduncles pubescent near the summit. *Involucrum* eight-parted, the segments subulate, entire, twice as long as the disk. *Florets* of the ray about ten, obovate, three-toothed at the summit, strongly nerved, yellow; of the disk numerous, yellow, tubular, five-cleft at the summit. *Anthers* a little longer than the florets. *Seeds* somewhat angular, increasing towards the summit. *Pappus* composed of five to six membranaceous scales, ovate, acuminate, mucronate, lacerate, shorter than the florets of the disk. *Receptacle* nearly globular, naked, excepting that between the florets of the ray are interposed subulate, entire scales as long as the florets of the disk.

Grows in wet soils, along the margins of fresh water rivers—very common.

Flowers October—November.

2. QUADRIDENTATUM. Mich.

H. foliis angusto-lanceolatis, integris, latius decurrentibus; flosculis disci quadridentatis.	Leaves narrow lanceolate, entire, widely decurrent; florets of the disk 4-toothed.

Mich. 2. p. 132. Pursh, 2. p. 560. Nutt. 2. p. 173.

Michaux describes this plant as growing in Carolina. Nuttall mentions it as seen by him in Louisiana. Pursh speaks of it also as a Mississippi plant, and says that its flowers are smaller than those of the preceding species. I have a specimen which I was once disposed to consider as belonging to this species, it differs, however, in several respects, but as it is imperfect I shall briefly notice it in this place.

Stem about three feet high, winged, the wings less conspicuous than those of the H. Autumnale, pubescent. Upper *leaves* remote, linear-lanceolate, pubescent, entire; the lower ones in my specimen wanting. *Flowers* solitary, terminating the small branches. *Involucrum* about twelve-parted? *Florets* of the ray obovate, with the summit three or four toothed, yellow, larger than those of the H. Autumnale; of the disk very numerous, four or five parted. *Seeds* hispid, covered with scales rather than with hair. *Pappus* composed of six ovate acuminate, mucronate scales. *Receptacle* oblong, resembling that of the Rudbeckia.

Grows in the swamps of Carolina.

Flowers September—October.

ECLIPTA. GEN. PL. 1316.

Involucrum polyphyllum, foliis subæqualibus. *Corollulæ* disci	*Involucrum* many leaved, the leaves nearly equal. *Florets*

quadrifidæ. *Pappus* 0. *Receptaculum* setosum.	of the disk 4-cleft. *Pappus* 0. *Receptacle* bristly.

1. ERECTA.

E. erecta, dichotoma, strigosa; foliis lanceolatis, basi attenuatis, rariter serratis; pedunculis geminis, elongatis; involucri foliolis ovatis, acuminatis. Pursh.	Erect, dichotomous, strigose; leaves lanceolate, attenuate at base, rarely serrate; peduncles by pairs, long; leaves of the involucrum ovate, acuminate.

Sp. pl. 3. p. 2217. Pursh, 2. p. 561. Nutt. 2. p. 169.

Plant annual. *Leaves* opposite, sessile, lanceolate, serrate, triplinerved, remote. *Peduncles* by pairs, long. *Flowers* small, white. Lin.

Grows in dry gravelly soils, Virginia to Florida. Pursh.

Flowers June—July.

2. PROCUMBENS. Mich.

E. procumbens assurgensve; foliis longo lanceolatis, inferne angustatis, rariter serratis; involucri foliolis acute lanceolatis; flosculis quadrifidis. Mich.	Procumbent or assurgent; leaves long lanceolate, narrowed near the base, sparingly serrate; leaves of the involucrum acutely lanceolate; florets quadrifid.

Mich. 2. p. 129. Pursh, 2. p. 562. Nutt. 2. p. 169.

Root annual? *Stem* procumbent, one to two and a half feet long, terete, sometimes turgid below the joints, branches numerous, opposite, radicant, and with the whole plant sprinkled with rigid appressed hairs. *Leaves* sessile, triplinerved, opposite. *Peduncles* about an inch long, generally in pairs, but never, I believe, opposite. *Involucrum* eight to ten leaved; leaves lanceolate, serrate, fringed, arranged in one series but unequal in size, longer than the florets of the ray. *Florets* of the ray numerous, (twenty-four to thirty,) short, linear, white, two-toothed; of the disk tubular, white, four-cleft. *Stamens* four, as long as the florets of the disk; style as long as the stamens. *Seed* four-angled, roughened with tubercles, with a thick margin around the summit, crowned with a *pappus* composed of short, white, setaceous, deciduous bristles irregularly arranged. *Receptacle* bristly, the bristles almost setaceous, fringed, as long as the seed.

Grows in damp soils—very common.

Flowers June—October.

3. BRACHYPODA. Mich.

E. divaricato prostrata; foliis lanceolatis, rarissime serratis; pedunculis solitariis geminisque, brevibus; involucri foliolis ovali lanceolatis; flosculis quinquefidis. Mich.	Divaricate, prostrate; leaves lanceolate, very sparingly serrulate; peduncles solitary and in pairs, short; leaves of the involucrum oval-lanceolate; florets 5-cleft.

Mich. 2. p. 130. Pursh, 2. p. 562. Nutt. 2. p. 169.

Amellus Carolinianus. Walt. p. 213.

This species, probably by its close resemblance to the preceding, has eluded my notice. Of many plants of this genus which I have examined, I have never found one with the florets of the disk five-cleft; yet Walter and Michaux both mention this character.

Grows in low sandy fields, Pursh; in Carolina, Mich.

Flowers July—September.

ANTHEMIS. GEN. PL. 1312.

Involucrum hemisphericum, subæquale. *Flores* radii plures quam 5. *Pappus* nullus s. margo membranaceus. *Receptaculum* paleaceum; paleis planis, apice acuminatis, rigidis.	*Involucrum* hemispherical; nearly equal. *Florets* of the ray more than 5. *Pappus* 0, or a membranaceous margin. *Receptacle* chaffy, chaff flat, acuminate at the summit, rigid.

1. COTULA.

A. receptaculis conicis, paleis setaceis; seminibus nudis, foliis bipinnatis, foliolis subulatis tripartitis.	Receptacle conic; chaff setaceous; seed naked; leaves bipinnate, leaflets subulate, three-parted.

Sp. pl. 3. p. 2181. Walt. p. 211. Nutt. 2. p. 171.

Root annual. *Stem* one to two feet high, erect, slightly angled, pubescent, with the segments linear, acute. *Flowers* in terminal corymbs. *Involucrum* many leaved. *Leaves* narrow lanceolate, pubescent, arranged nearly in two series. *Florets* of the ray about twelve, white, twice or thrice as long as the disk; of the disk very numerous, yellow, tubular, with the border five-cleft. *Seed* a little angular, a little roughened, naked, slightly mucronate. *Receptacle* conic, chaffy towards the centre of the disk; the scales subulate, very narrow, shorter than the florets.

An exotic now extensively naturalized.

Grows in damp clayey soils.

Flowers May—June.

ACHILLEA. GEN. PL. 1313.

Involucrum ovatum, imbricatum. *Corollulæ* radii circiter 5. *Pappus* nullus. *Receptaculum* paleaceum.	*Involucrum* ovate, imbricate. *Florets* of the ray about 5. *Pappus* 0. *Receptacle* chaffy.

1. MILLEFOLIUM.

A. foliis bipinnatifidis, pilosis, laciniis linearibus, dentatis, mucronatis; caulibus sulcatis.	Leaves bipinnatifid, hairy, the segments linear, toothed, mucronate; stem furrowed.

Sp. pl. 3. p. 2208. Pursh, 2. p. 563. Nutt. 2. p. 171.

Root perennial. *Stem* about two feet high, pubescent. *Leaves* doubly pinnate, the segments linear, acute, dissected and toothed, all glabrous. *Flowers* with terminal corymbs. *Involucrum* many leaved, imbricate, scales ovate and lanceolate, hairy. *Florets* of the ray about five, white; of the disk more but not very numerous, white, tubular. *Pappus* none. *Receptacle* chaffy. *Scales* ovate, lanceolate, acute.

An exotic like the preceding, not so generally naturalized, but found very frequently around buildings.

Flowers June—August.

ACMELLA. Rich.

Involucrum paucifolium, foliis duplici serie. *Semina* tetragona, apice truncata, nuda. *Receptaculum* oblongum, paleaceum.	*Involucrum* few leaved, leaves in a double series. *Seeds* 4-angled, truncate at the summit, naked. *Receptacle* oblong, chaffy.

1. Repens.

A. caule repente; foliis ovato lanceolatis, denticulatis, triplinervibus, parce pubescentibus; pedunculis axillaribus, terminalibusque, longissimis, unifloris. E.	Stem creeping; leaves ovate-lanceolate, toothed, triplinerved, a little pubescent; peduncles axillary and terminal, very long, one-flowered.

Pers. Syn. 2. p. 473. Nutt. 2. p. 171.
Anthemis Repens. Walt. p. 211. Pursh, 2. p. 562.
Spilanthus Repens. Mich. 2. p. 131.

Root perennial. *Stem* one to two feet long, recumbent, pubescent, taking root at the lower joints. *Leaves* opposite, ovate-lanceolate, acute, at base attenuated into a semiamplexicaule petiole about an inch long. *Flowers* solitary, near the summit of the stem, peduncles three to four inches long. *Involucrum* composed of about twelve leaves arranged in a double series, leaves ovate-lanceolate, very acute, equal, pubescent. *Florets* of the ray about twelve, yellow, unequally three-toothed, twice as long as the involucrum; of the disk numerous, tubular, with the border five-cleft. *Anthers* short, yellow. *Style* longer than the florets of the disk, two-cleft. *Seeds* oblong, obovate, compressed, naked. *Receptacle* chaffy. *Scales* obovate, acuminate, yellow.

Grows in wet soils.

Flowers September—October.

HELIOPSIS. Persoon.

Involucrum imbricatum, squamis ovatis, subequalibus. *Corollulæ* radii lineares. *Pappus* nullus. *Semina* tetragona. *Receptaculum* conicum.	*Involucrum* imbricate, the scales ovate, nearly equal. *Florets* of the ray linear. *Pappus* 0. *Seeds* 4-angled. *Receptacle* conic.

1. Lævis.

Persoon, 2. p. 473. Pursh, 2. p. 563. Nutt. 2. p. 172.
Buphthalmum Helianthoides. Sp. pl. 3. p. 2236. Walt. p. 212. Mich. 2. p. 130.

Root perennial. *Stem* two to four feet high, glabrous, dichotomously branching. *Leaves* opposite, ovate-lanceolate, triplinerved, coarsely serrate, nearly smooth, and glabrous. *Flowers* solitary, terminal, and in the divisions of the stem, on long peduncles. *Involucrum* many leaved, imbricate, leaves oblong, rather obtuse. *Florets* of the ray oblong, yellow, about ten? of the disk numerous. *Seeds* four-angled, naked. *Receptacle* convex, scaly, the scales longer than the seeds.

Grows in dry sandy soils—not common in the low country of Carolina.
Flowers May—June.

TETRAGONOTHECA. L'Heritier.

Involucrum monophyllum, 4-gonum, 4-partitum, latissimum. *Pappus* nullus. *Receptaculum* paleaceum.	*Involucrum* one-leaved, 4-angled, 4-parted, very broad. *Pappus* none. *Receptacle* chaffy.

1. Helianthoides.

Willd. Sp. pl. 3. p. 2116. Pursh, 2. p. 563. Nutt. 2. p.
Polymnia Tetragonotheca. Walt. p. 216. Mich. 2. p. 147.

Root perennial. *Stem* herbaceous, erect, two to three feet high, branching, somewhat hispid, and with the whole plant scabrous. *Leaves* opposite, sessile, spathulate-lanceolate, dentate, hairy, sprinkled with glandular atoms. *Flowers* solitary, axillary and terminal. *Involucrum* one-leaved, deeply four-parted, the segments ovate-lanceolate, acute, hairy on the outer surface, glabrous within, the margins reflected and united render the involucrum four-angled, and in some measure four-winged. *Florets* of the ray six to eight, large lanceolate, unequally three-toothed, yellow; of the disk numerous, (about fifty,) tubular, yellowish, with the margin five-cleft. *Anthers* longer than the florets of the disk. *Styles* longer than the stamens, two-cleft. *Stigmas* reflexed. *Seeds* obovate, slightly angled, pubescent at the summit. *Pappus* 0. *Receptacle* conic, chaffy, the scales lanceolate, acuminate, nerved, sprinkled with glandular dots.

Grows in dry sandy soils.

Flowers May—June, and frequently again in the autumn.

BUPHTHALMUM. Gen. Pl. 1231.

Involucrum foliaceum. *Seminum* latera, præsertim radii marginata. *Pappus* margo obsoletus, sive 4-dentatus. *Receptaculum* paleaceum.	*Involucrum* leafy. Angles of the seeds, especially of the ray, winged. *Pappus* an obsolete margin, sometimes obscurely 4-toothed. *Receptacle* chaffy.

1. Frutescens.

B. foliis oppositis, cuneato - lanceolatis, carnosis, incanis; petiolis bidentatis; caule fruticoso.	Leaves opposite, cuneate lanceolate, carnose, hoary; the petioles 2-toothed; stem shrubby.

Sp. pl. 3. p. 2064. Walt. p. 212. Mich. 2. p. 130. Pursh, 2. p. 563. Nutt. 2. p. 172.

A small shrubby plant with stoloniferous roots. *Stem* one to two feet high, glabrous, pubescent at the summits, branching. *Leaves* opposite, sessile, semiamplexicaule, entire, obscurely three-nerved, glaucous, the attenuated base two to five toothed, sometimes on the branches one or none. *Flowers* solitary, terminal. *Involucrum* many leaved, imbricate; leaves lanceolate, acuminate, mucronate, expanding. *Florets* of the ray ten to twelve, yellow, lanceolate, nearly acute at the summit; of the disk numerous, longer than the involucrum, yellowish, five-cleft. *Styles* and *stamens* about as long as the florets of the disk. *Seeds* of the ray three; of the disk four angled, crowned with a four-toothed membrane, the angles very acute. *Receptacle* flat, impressed, chaffy; chaff obovate, acuminate, with a rigid point, pubescent.

Grows along the margin of salt water.
Flowers June—October.

2. Angustifolium. Pursh.

B. foliis alternis, linearibus, superne latioribus, integerrimis, glabris; involucri foliolis acute lanceolatis.

Leaves alternate, linear, broader near the summit, entire, glabrous; leaves of the involucrum acutely lanceolate.

Pursh, 2. p. 564. Nutt. 2. p. 172.

With this species, which was described by Pursh from specimens in the Herbarium of Sir Joseph Banks, I am unacquainted. It was found probably in Florida by Bartram.

Grows in Georgia and Florida. Pursh.
Flowers—

SIEGESBECKIA. Gen. Pl. 1320.

Involucrum exterius 5-phyllum, patens. *Radius* dimidiatus. *Semina* subtetragona. *Pappus* nullus. *Receptaculum* paleaceum.

Exterior involucrum 5-leaved, expanding. *Florets* of the ray small. *Seed* somewhat 4-angled. *Pappus* 0. *Receptacle* chaffy.

1. Laciniata.

S. foliis laciniato-pinnatifidis, superioribus lanceolatis, integris, tuberculatis; in-

Leaves laciniate pinnatifid, the upper lanceolate, entire, roughened with tubercles;

volucro exteriore breviore; flosculis radii maximis.

exterior involucrum short; florets of the ray very large.

Encyc. Bot. 7. p. 158. Persoon Syn. 2. p. 471. Nutt. 2. p. 170.

This plant, which was inserted in the Encyclopedia Methodique by La Marck? has not recently been seen in this country. I have inserted it, as it is said to belong to Carolina, and at the same time to note that the expanding involucrum and large ray by no means apply to the Verbesina Sinuata. Whether really a native of the United States remains perhaps yet to be ascertained.

Grows in Carolina. La Marck. Persoon.

VERBESINA. Gen. Pl. 1317.

Involucrum polyphyllum, foliis duplici ordine. *Corollulæ* radii circiter 5. *Pappus* 2-aristatus. *Receptaculum* paleaceum.

Involucrum many leaved, the leaves in a double series. *Florets* of the ray about 5. *Pappus* 2-awned. *Receptacle* chaffy.

1. Virginica.

V. caule angusto alato; foliis alternis lato-lanceolatis subserratis; corymbo composito, involucris oblongis pubescentibus.

Stem narrow winged; leaves alternate, broad,lanceolate, somewhat serrate; corymb compound, involucrum oblong pubescent.

Sp. pl. 3. 2222. Walt. p. 213. Mich. 2. p. 134. Pursh, 2. p. 564. Nutt. 2. p. 170.

Root perennial. *Stem* herbaceous, erect, three to six feet high, furrowed pubescent, towards the base irregularly winged by the decurrent leaves. *Leaves* alternate, spathulate, ovate-lanceolate, acute, toothed, hairy, and scabrous on the upper surface, almost tomentose underneath. *Flowers* numerous in a terminal corymb. *Involucrum* many leaved, imbricate; leaves oblong, pubescent, shorter than the disk. *Florets* of the ray about three, white, oval, two to three toothed; of the disk about fifteen, tubular, nearly white, with the border five-cleft. *Seeds* four-angled, compressed, hairy, crowned with two scabrous bristles. *Receptacle* flat, chaffy. *Scales* oblong, obovate, somewhat acute, hairy, a little shorter than the florets.

Grows in the middle country of Carolina and Georgia.

Flowers August and September.

2. SINUATA.

V. foliis alternis, sessilibus, sinuatis, basi-attenuatis; floribus corymbosis, albis; involucris imbricatis.	Leaves alternate, sessile, sinuate, attenuate at base; flowers in corymbs, white; involucrum imbricate.

V. Laciniata. Nutt. 2. p. 170.

Root perennial. *Stem* herbaceous, erect, four to six feet high, pubescent, striate, and towards the base irregularly winged. The upper and lowest *leaves* frequently spathulate, ovate, acute and acuminate, the intermediate deeply sinuate, with the sinuses obtuse and the lobes generally acute, all scabrous on the upper surface, pubescent underneath. *Involucrum* about ten-leaved, leaves pubescent, slightly obovate, scarcely half as long as the disk. *Florets* of the ray three to five, white, oval, twice as long as the disk; of the disk twelve to twenty, tubular, with the border five-cleft. *Anthers* as long as the corolla, like those of the preceding species nearly black. *Seeds* cuneate, obovate, compressed, winged, crowned with two awns, the awns and wings hairy. *Receptacle* small, chaffy. *Scales* lanceolate, concave, compressed, acute, pubescent, a little longer than the seeds.

I sent specimens of this plant to Dr. Muhlenberg many years ago, under the name of V. Sinuata; as it still appears to me the most appropriate name I have retained it.

Grows on the sea islands in sandy soils, Eddings' Island, Hilton Head.

Flowers October and November.

3. SIEGESBECKIA. Mich.

V. caule alato; foliis oppositis, ovato-lanceolatis, utrinque acuminatis, acute serratis; corymbo brachiato; ramulis summitate irregulariter multifloris.	Stem winged; leaves opposite, ovate-lanceolate, acuminate at each end, acutely serrate; corymb brachiate; branches irregularly many flowered at the summit.

Willd. Sp. pl. 3. p. 2224. Mich. 2. p. 134. Pursh, 2. p. 565. Nutt. 2. p. 170.
V. Occidentalis. Walt. p. 213.
Siegesbeckia Occidentalis. Lin. Gron.

Root creeping, perennial. *Stem* herbaceous, erect, four to six feet high, pubescent, four-winged, branches opposite, brachiate. *Leaves* large ovate, acuminate, acutely and irregularly toothed, triplinerved, pubescent, somewhat scabrous, abruptly attenuated at base into a petiole one to two inches long. *Flowers* in large somewhat fastigiate corymbs, the small branches or peduncles alternate. *Involucrum* eight to ten leaved, loosely imbricate, the leaves oblong, obtuse, pubescent, the interior resembling scales. *Florets* of the ray one to three, yellow, lanceolate, three-toothed at the summit, nearly an inch long; of the disk twenty to twenty-four, tubular, yellow, five-cleft at the summit. *Seeds* obovate, compressed, hispid, crowned with two hairy awns. *Receptacle* flat, chaffy; scales lanceolate, acuminate, pubescent, as long as the florets of the disk.

Grows in dry sandy soils.

Flowers June—August.

SYNGENESIA FRUSTRANEA.

ACTINOMERIS. Nuttall.

Involucrum polyphyllum, squamis subæqualibus (biseriatis?) Radii *corollulæ* 4—8 (12.) *Receptaculum* paleaceum squamis semina amplexicaulibus. *Semina* compressa, marginata, aristis duabus persistentibus.

Involucrum many leaved, scales nearly equal (in 2 series?) *Florets* of the ray 4—8 (12.) *Receptacle* chaffy, the scales embracing the seed. *Seeds* compressed, margined, bearing 2 persistent awns.

1. HELIANTHOIDES? Nutt.

A. foliis lanceolatis, acutis, serratis, subtus villosis, scabris; caule alato; panicula pauciflora, radiis elongatis.

Leaves lanceolate, acute, serrate, villous underneath, scabrous; stem winged; panicle few flowered; florets of the ray long.

Nutt. 2. p. 181.

Stem three to four feet high, nearly terete but conspicuously winged, slightly scabrous. *Leaves* lanceolate, acute, serrate, slightly scabrous, villous underneath, very slightly canescent, three to five inches long, two to three wide. *Flowers* in a small terminal corymb. *Scales* of the involucrum ovate and oval lanceolate, nearly equal, hispid, arranged in two series. *Florets* of the ray ten to twelve, narrow lanceolate, one and a half to two inches long, bright yellow; of the disk numerous, yellowish. *Seeds* compressed, very slightly winged, hairy, crowned with two persistent awns about one third of their own length. *Receptacle* rather convex, chaffy, the chaff lanceolate, concave, rather longer than the body of the seeds.

Grows near Louisville, Georgia. Mr. Jackson.

Flowers—

2. SQUARROSA. Nutt.

A? caule erecto, alato, superne pubescente; foliis lanceolatis, serratis, scabris; panicula laxa, foliosa; involucro patente; receptaculo subgloboso.

Stem erect, winged, pubescent towards the summit; leaves lanceolate, serrate, scabrous; panicle loose, leafy; involucrum expanding; receptacle nearly globose.

Nutt. 2. p. 181.

Coreopsis Alternifolia, Sp. pl. 3. p. 2257.

Verbesina Coreopsis, Mich. 2. p. 134. Pursh, 2. p. 565.

a FLAVA.

Plant three to seven feet high, erect, winged, glabrous when old. *Leaves* broad lanceolate, acute, serrate, scabrous, tapering at base to a short petiole. *Flowers* in a terminal panicle. *Scales* of the involucrum linear-lanceolate, expanding, finally reflexed, arranged in one? series. *Florets* of the ray about four, nearly an inch long, linear-lanceolate, expanding or reflexed, yellow; of the disk numerous. *Seed* compressed, slightly winged, a little hairy, crowned with two persistent awns. Chaff of the receptacle ovate-lanceolate, rather longer than the seeds.

b ALBA.

Stem, leaves and panicle very similar to those of the preceding variety. *Leaves* narrow lanceolate, very scabrous and dotted on the upper surface. *Scales* of the involucrum about eight, linear-lanceolate, shorter than the disk, expanding or reflexed, arranged in a single series. *Florets* of the ray none; of the disk numerous, white, glabrous. *Seeds* obovate, compressed, pubescent. *Receptacle* globose, chaff ovate-lanceolate, slightly acuminate, fringed.

Grows, variety *a* in the upper country of Carolina and Georgia; *b* in the low country of Carolina.

Flowers August—October.

HELIANTHUS. Gen. Pl. 1322.

Receptaculum paleaceum, planum. *Pappus* diphyllus, caducus. *Involucrum* imbricatum, subsquarrosum, foliaceum.

Receptacle chaffy, flat. *Pappus* 2-leaved, caducous. *Involucrum* imbricate, generally squarrose, leafy.

* *Floribus disci atro purpureis.*

* *Florets of the disk dark purple.*

1. Atrorubens.

H. hispidus; caule superne nudiusculo laxe paniculato; foliis spathulatis, oblongo-ovatis, crenatis, triplinervibus, supra scabris; involucri squamis ovato-lanceolatis, longitudine disci.

Hispid; stem naked towards the summit, loosely paniculate; leaves spathulate, oblong ovate, crenate, triplinerved, scabrous on the upper surface; scales of the involucrum ovate-lanceolate, as long as the disk.

Sp. pl. 3. p. 2254. Walt. p. 216. Mich. 2. p. 140. Pursh, 2. p. 570. Nutt. 2. p. 177.

Root perennial. *Stem* herbaceous, three to four feet high, muricate, with a few long branches. *Leaves* opposite, spathulate, but tapering at base, ovate, acute, toothed, scabrous on the upper surface, hairy and rather soft underneath, triplinerved, paler underneath; those near the base crowded and nearly a foot long, the upper ones small, sessile, and almost connate. *Flowers* in a loose terminal panicle. *Involucrum* many leaved, (twenty to twenty-four,) imbricate, leaves slightly obovate, ciliate, erect. *Florets* of the ray (fourteen) lanceolate, nerved, yellow, about an inch long; of the disk numerous, tubular, dark purple. *Seeds* oblong, four-angled, compressed, a little hairy on the summit, crowned with two long, fringed, deciduous awns. *Receptacle* convex, chaffy, the chaff nearly as long as the corolla, concave, keeled, three-cleft at the summit, the middle segment long and with the keel fringed.

Grows generally in dry soils.
Flowers September—October.

2. SPARSIFOLIUS. E.

H. caule scabro, ramulis subglabris; foliis ovatis, acutis, grosse dentatis, hispidis, utrinque scaberrimis, abrupte in petiolum angustatis; involucri squamis ovali-lanceolatis, ciliatis; disco atro rubente.	Stem scabrous, the branches nearly glabrous; leaves ovate, acute, coarsely toothed, hispid, very scabrous on both surfaces, abruptly contracted into a petiole; scales of the involucrum oval-lanceolate, ciliate; disk dark red.

To the H. Atrorubens this plant bears a strong affinity. It is larger, however, and its leaves instead of tapering to the base with a slight acumination, abruptly terminate on hispid petioles two to three inches long; they are broader also, much more rough, particularly on the under surface, and are coarsely and irregularly toothed.

Stem four to five feet high, with long slender generally smooth branches. *Leaves* opposite, distant, the upper nearly sessile. *Flowers* in a loose scattered panicle. *Florets* of the ray about fourteen, bright yellow; of the disk numerous, dark purple. *Leaves* of the involucrum about as long as the disk, finely fringed. *Pappus* subulate. *Chaff* of the receptacle lanceolate, nearly entire.

Grows in the western districts of Georgia.
Flowers August—October.

3. ANGUSTIFOLIUS.

H. caule gracili, scabriusculo; foliis angusto-lanceolatis, margine	Stem slender, slightly scabrous; leaves narrow lanceolate, with

revolutis, scabris, integris, subtus subglaucis, superioribus alternis; involucri squamis lineari-lanceolatis, ciliatis, patentibus; paleis tridentatis. E.

the margin revolute, scabrous, entire, glaucous underneath, the upper ones alternate; scales of the involucrum linear-lanceolate, ciliate, expanding; chaff 3-toothed.

Sp. pl. 3. p. 2244. Walt. p. 216. Mich. 2. p. 141. Pursh, 2. p. 572. Nutt. 2. p. 178.

Root perennial. *Stem* two to three feet high, pubescent, sparingly branched. *Leaves* opposite below, alternate near the summit of the stem, scabrous on the upper surface, pubescent and somewhat rough underneath. *Flowers* small, terminal. *Leaves* of the involucrum very acute, as long as the disk. *Florets* of the ray about twelve, about an inch long, yellow; of the disk dark purple at the summit. *Seeds* compressed. *Pappus* setaceous, fringed, about half as long as the seed. *Receptacle* convex, chaff concave, slightly three-cleft at the summit.

Grows in damp soils, most common in wet pine barrens.

Flowers August—October; sometimes in April.

*** Floribus disci flavescentibus.*

*** Florets of the disk yellowish.*

† Foliis omnibus oppositis.

† Leaves all opposite.

4. Truncatus. Schweinitz.

H. caule gracili, glabro; foliis oppositis ovatis, superne attenuatis, serratis, pilosis, scabris, arcte sessilibus; involucri squamis ovato-lanceolatis, ciliatis; paleis lanceolatis, ciliatis pubescentibusque. E.

Stem slender, glabrous; leaves opposite, ovate, tapering towards the summit, serrate, hairy, scabrous, closely sessile; scales of the involucrum ovate-lanceolate, ciliate; chaff lanceolate, ciliate, pubescent.

Root perennial. *Stem* about two feet high, slender, simple, sometimes divided at the base, glabrous. *Leaves* all opposite, abruptly rounded at base, triplinerved, paler underneath. *Flowers* few, small, terminal. *Peduncles* or small branches generally opposite. *Leaves* of the involucrum about as long as the disk, somewhat hispid on the inner surface. *Florets* of the ray ten to twelve, narrow, scarcely an inch long; of the disk not numerous, yellowish. *Pappus* subulate. Chaff of the receptacle undivided, pubescent, and fringed along the summit.

Sent to me under this name by Dr. Schweinitz from Salem, North-Carolina. Found abundantly in the western districts of Georgia. The latter rather more hispid and rough than my specimens from North-Carolina; in all other respects exactly similar.

Flowers August—October.

5. LONGIFOLIUS. Pursh.

H. glaberrimus; caule paniculato, ramis summitate paucifloris; foliis subsessilibus longissime-lanceolatis, triplinervibus, integerrimis, inferioribus serratis; involucri squamis ovatis, acutis, exterioribus linearibus, divaricatis.

Very glabrous; stem paniculate, the branches bearing a few flowers at the summit; leaves nearly sessile, very long, lanceolate, triplinerved, entire, the lower serrate; scales of the involucrum ovate, acute, the exterior linear, divaricate.

Pursh, 2. p. 571.

Perennial. *Stem* three to four feet high, (four to seven, Pursh,) very glabrous, tinged with purple. *Leaves* six to eight inches long, four to six lines wide, glabrous, obscurely triplinerved, generally entire, tapering towards the base, yet finally connate, forming a short sheath; near the root numerous, along the stem very distant. *Flowers* in a small terminal corymb, the branches alternate. *Scales* of the involucrum ovate-lanceolate, nearly glabrous. *Florets* of the ray about ten, small for this genus. *Pappus* subulate, caducous. *Scales* of the receptacle lanceolate, concave, conspicuously three-toothed.

This species, which agrees in habitat and character with the H. Longifolius of Pursh, is certainly remarkable. It has all the artificial, and I believe, essential characters of Helianthus, with the aspect of an aquatic Coreopsis.

Grows in damp rich soils in the western districts of Georgia.

Flowers September—October.

6. PUBESCENS.

H. cano-pubescens; caule villoso, foliis sessilibus, cordato-ovatis, amplexicaulibus, tripli nervibus, crenulatis, mollissimis; involucri squamis lanceolatis, villosis.	Pubescent, hoary; stem villous; leaves sessile, cordate-ovate, amplexicaule, tripli-nerved, crenulate, very soft; scales of the involucrum lanceolate, villous.

Sp. pl. 3. p. 2244. Pursh, 2. p. 570. Nutt. 2. p. 177.
H. Canescens, Mich. 2. p. 140.

Root perennial. *Stem* two to three feet high, erect, nearly simple, villous, hoary. *Leaves* all opposite, cordate, ovate, acute, sessile, pubescent, soft excepting the margins which are very scabrous, the nerves and veins prominent, and apparently bordering the young leaves. *Flowers* few, rarely exceeding two to three, terminating the small branches. *Involucrum* imbricate, scales somewhat subulate, acute, very villous. *Florets* of the ray (fourteen to sixteen) lanceolate, nearly entire, yellow or rather tawny; of the disk numerous, tubular, yellowish, five-cleft, pubescent at the summits. *Stamens* and *styles* as long as the florets. *Seeds* compressed, a little hairy. *Pappus* composed of two membranaceous, concave, subulate scales, fringed, and about half the length of the seed. *Receptacle* convex, chaffy; the chaff lanceolate, concave, acute, entire, hairy towards the summit.

Grows around ponds near the Flint River, Georgia. Along the "Federal Road" from Milledgeville to the Alabama.

Flowers August—September.

7. MOLLIS. Willd.

H. caule inferne lævi, superne scabriusculo; foliis ovato-lanceolatis, acutis, serratis, supra scabris, subtus pubescentibus, albo tomentosis; floribus paucis, terminalibus.	Stem smooth below, scabrous near the summit; leaves ovate-lanceolate, acute, serrate, scabrous on the upper surface, pubescent and haory underneath; flowers few, terminal.

Sp. pl. 3. p. 2240. Pursh, 2. p. 572. Nutt. 2. p. 178.

Root perennial, creeping. *Stem* herbaceous, three to six feet high, purple, smooth, slightly scabrous near the summit. Lower *leaves* opposite, the upper alternate, all ovate-lanceolate, very acute, with glandular serratures, pubescent and somewhat glaucous underneath. *Petioles* short, fringed. *Flowers* few, in a terminal panicle. *Involucrum* imbricate, leaves (twenty-three to twenty-seven) oblong, lanceolate, hairy, fringed. *Florets* of the ray about ten, lanceolate, hairy, yellow, about an inch long; of the disk numerous, yellowish. *Stamens* and *styles* scarcely as long as the florets of the disk. *Seeds* compressed. *Pappus* acuminate, hairy. Chaff of the receptacle concave, three-cleft at the summit, hairy near the summit and along the keel.

This plant agrees in many respects with the H. Mollis as described by Pursh, but it certainly is not the H. Tomentosus of Michaux. A variety in the low country with the leaves pubescent and only slightly glaucous, I have always considered as the H. Lævis of Walter, but Walter's name could scarcely be retained to a plant which in reality has nothing smooth about it but the lower part of the stem.

Grows in dry, moderately fertile soils.

Flowers July—August.

8. Hispidulus. E.

H. caule scabro; foliis oppositis, sessilibus, ovato-lanceolatis, superne attenuatis, serrulatis, supra scabris, subtus pallidioribus, hispidulis; involucri squamis ovato-lanceolatis, ciliatis; paleis tridentatis. E.

Stem scabrous; leaves opposite, sessile, ovate-lanceolate, tapering towards the summit, serrulate, scabrous on the upper surface, paler underneath and slightly hispid; scales of the involucrum ovate-lanceolate, ciliate; chaff 3-toothed.

Root perennial. *Stem* erect, scabrous, three to four feet high. *Leaves* long, narrow, tapering to their summits, triplinerved, very obscurely serrulated. *Flowers* few, terminal. *Peduncles* opposite, the upper pair generally longer than the stem. Leaves of the involucrum ovate-lanceolate, as long as the disk, scabrous, ciliate. *Florets* of the ray eight to ten, about an inch long, yellow; of the disk numerous. *Pappus* subulate, pubescent. Chaff of the receptacle nearly as long as the florets of the disk, three-toothed, hairy along the back and summits.

Grows in the pine barrens near Louisville, Georgia. Mr. Jackson.

Flowers September—October.

9. STRUMOSUS.

H. foliis ovatis, acuminatis, serratis, triplinervibus, subtus scabris; involucri squamis lineari-lanceolatis, basi ciliatis. Willd.	Leaves ovate, acuminate, serrate, triplinerved, scabrous underneath; scales of the involucrum linear-lanceolate, ciliate at base.

Sp. pl. 3. p. 2242. Pursh, 2. p. 571. Nutt. 2. p. 178.

My friend Dr. Schweinitz sent me under this name a plant of which the following is a brief description. The short and defective account of this species in Willdenow and Pursh, does not enable me to ascertain whether we have all described the same plant.

Root perennial. *Stem* tall, slender, sparingly branched, glabrous. *Leaves* lanceolate, sometimes ovate-lanceolate, acuminate, conspicuously serrate, thin, slightly scabrous on both surfaces, paler and sprinkled with hairs underneath, on short petioles, the lower opposite, the upper alternate. *Flowers* small, few, terminal. Leaves of the involucrum linear-lanceolate, about as long as the disk, ciliate, with the hairs nearly obliterated towards the summit. *Florets* of the ray eight to ten, yellow, about an inch long; of the disk not numerous. *Pappus* nearly setaceous. Chaff of the involucrum nearly as long as the florets, pubescent near the summit, with two lateral teeth *not opposite.*

Collected near Salem, North-Carolina, and to be found most probably along the base of the Alleghany mountains in Carolina and Georgia.

Var. *a.* PALLIDUS.

From Louisville, Georgia, I have received a specimen which at present I can only arrange as a variety of the preceding. *Stem* very slender. *Leaves* all opposite, narrow, lanceolate, long, tapering to the summit but scarcely acuminate, very thin, nerves prominent, slightly scabrous, light green, but paler and pubescent underneath. *Flowers* few, small, terminal. Leaves of the involucrum fewer than in the preceding variety, shorter than the disk, fringed. *Florets* of the ray eight? small; of the disk not numerous. *Stamens* longer than the florets of the disk. *Pappus* setaceous. Chaff of the receptacle pubescent, entire or three-toothed at the summit. The chaff, the involucrum, and the opposite narrow leaves seem to mark this as a distinct species. Sent by Mr. Jackson.

10. TENUIFOLIUS. E.

H. caule lævigato; foliis oppositis, ovato-lanceolatis, acuminatis,	Stem smooth; leaves opposite, ovate-lanceolate, acuminate, coarse-

grosse serratis, utrinque scabriusculis, longe petiolatis, membranaceis; involucri squamis lanceolatis, ciliatis; floribus parvis. E.

ly serrate, a little scabrous on both surfaces, on long petioles, membranaceous; scales of the involucrum lanceolate, ciliate; flowers small.

Root perennial. *Stem* about four feet high, terete, glabrous. *Leaves* large, opposite, on petioles two to three inches long, spathulate ovate, thinner than those of any other species with which I am acquainted, excepting those of H. Strumosus, slightly scabrous, not hairy on the upper surface, paler and a little pubescent on the under. *Flowers* few, small, terminal. Leaves of the involucrum lanceolate, fringed, appressed, as long as the disk. *Florets* of the ray about ten? yellow, about an inch long; of the disk not numerous. *Seed* obovate, compressed. *Pappus* subulate, pubescent. Chaff of the receptacle slightly tridentate, fringed at the summit and along the back.

In structure and habit very similar to H. Spathulatus, but with thinner leaves, longer petioles, and smaller flowers.

Grows in the western districts of Georgia.

Flowers August—October.

11. SPATHULATUS. E.

H. caule superne scabro; foliis oppositis, spathulato-ovatis, paulo acuminatis, serratis; supra scabris subtus pubescentibus; ramulis oppositis; involucri squamis lanceolatis, hispidis; paleis acuminatis, integris. E.

Stem scabrous near the summit; leaves opposite, spathulate-ovate, slightly acuminate, serrate, scabrous on the upper surface, pubescent underneath; branches opposite; scales of the involucrum lanceolate, hispid; chaff acuminate, entire.

Root perennial. *Stem* four to six feet high, terete, striate, scabrous towards the summit, branches few, and in my specimens with the leaves always opposite. *Leaves* ovate, with long, tapering, slightly acuminated summits, as in almost every species triplinerved, abruptly attenuated at base into a petiole about half an inch long, pubescent and soft underneath. *Flowers* terminating the branches. Leaves of the involucrum lanceolate, with tapering subulate summits, about as long as the disk. *Florets* of the ray ten to twelve? yellow, about an inch long, pubescent, slightly emarginate; of the disk numerous. *Seed* four-angled, rather long. *Pappus* subulate, pubescent. Chaff of the receptacle not as long as the florets of the disk, acuminate, very hispid just below the summit.

I have a variety of this plant differing with narrower, oval-lanceolate leaves, and very prominent serratures.

To the H. Macrophyllus of Willd. this plant appears to bear a strong resemblance. But Pursh places that species, with which I am unacquainted, among those with alternate leaves, while in this plant they are uniformly opposite. The size of the leaves would hardly justify Willdenow's specific name.

Grows in the western districts of Georgia.

Flowers August to October.

12. Tricuspis. E.

H. foliis oppositis, oblongis, ovato-lanceolatis, utrinque scabris; involucri squamis lato-subulatis, ciliatis; receptaculi paleis tricuspidatis.

Leaves opposite, oblong, ovate-lanceolate, scabrous on both surfaces; scales of the involucrum broad subulate, ciliate; chaff of the receptacle 3-cuspidate.

Root perennial. *Stem* three to four feet high, and with the whole plant very scabrous, branches and leaves very regularly opposite. *Leaves* much whitened on the upper surface by the blistered epidermis; of a dull uniform brown colour, though very scabrous underneath, triplinerved, with the margins revolute, nearly entire. *Flowers* few, terminating the branches. *Involucrum* many leaved, leaves subulate, wide at base, the interior rather longer. *Florets* of the ray fourteen to sixteen, about one and a half inches long, yellow. *Stamens* longer than the florets of the disk. *Seed* compressed. *Pappus* nearly as long as the seed, subulate, lacerate. Chaff of the receptacle tricuspidate, the middle segment the largest and somewhat acuminate.

This plant in its artificial character resembles much the H. Decapetalus, but it is a much harsher and coarser plant, and its opposite leaves and branches also distinguish it. The chaff of the receptacle is more deeply three-cleft than in any other species which I have examined. To the H. Scaberrimus it is much more nearly allied.

Grows in the western districts of Georgia.

Flowers September—October.

13. DIVERSIFOLIUS. E.

H. caule scabro; foliis oppositis, inferioribus ovato-lanceolatis, acuminatis, superioribus cordato-ovatis, mucronatis, omnibus supra scaberrimis, subtus pubescentibus; involucri squamis lanceolatis, ciliatis; paleis sub tridentatis. E.

Stem scabrous; leaves opposite, the lower ovate-lanceolate, acuminate, the upper cordate ovate, mucronate, all scabrous on the upper surface, pubescent underneath; scales of the involucrum lanceolate, ciliate; the chaff slightly 3-toothed.

Root perennial. *Stem* three to five feet high, very scabrous, with branches and leaves opposite. Lower *leaves* ovate-lanceolate, serrulate, with a tapering base, the upper abruptly contracted, nearly entire, all on hispid petioles two to three lines long. Leaves of the involucrum imbricate, scarcely as long as the disk. *Florets* of the ray ten to twelve, yellow, scarcely an inch long; of the disk numerous. *Pappus* subulate, concave, pubescent, longer than the seed. Chaff of the receptacle hairy at the summit, with two small but very distinct lateral teeth.

Grows in the western districts of Georgia. Somewhat resembling the H. Tricuspis but very distinct.

Flowers August—October.

14. SCABERRIMUS. E.

H. foliis oppositis, lanceolatis, utrinque scaberrimis, subintegerrimis; involucri squamis ovatis; receptaculi paleis integris, dorso ciliatis.

Leaves opposite, lanceolate, very scabrous on both surfaces, nearly entire; scales of the involucrum ovate; chaff of the receptacle entire, fringed on the back.

Root perennial. *Stem* four to six feet high, very scabrous and very sparingly divided. *Leaves* lanceolate, with a long tapering base, whitened and blistered on both surfaces, opposite. *Flowers* very few. *Involucrum* many leaved, leaves ovate, finely fringed, appressed, imbricate, the interior the longest. *Florets* of the ray sixteen to twenty, about an inch long; of the disk numerous. *Pappus* nearly as long as the seed, subulate, pubescent. Chaff of the receptacle concave, entire at the summit.

Grows in the western districts of Georgia.

Flowers September—October.

†† *Foliis superioribus alternis.*

* *Upper leaves alternate.*

15. TRACHELIFOLIUS.

H. foliis ovato-lanceolatis, acuminatis, serratis, triplinervibus, utrinque scaberrimis; involucri squamis lineari-lanceolatis, ciliatis, exterioribus longioribus.

Leaves ovate-lanceolate, acuminate, serrate, triplinerved, very scabrous on both surfaces; scales of the involucrum linear-lanceolate, ciliate, the exterior the longest.

Sp. pl. 3. p. 2241. Pursh, 2. p. 570. Nutt. 2. p. 177.
H. Gigas, Mich. 2. p. 141.

Root perennial. *Stem* erect, three to four feet high, branching towards the summit, very scabrous. *Leaves* narrow, ovate-lanceolate, slightly acuminate, with glandular serratures, attenuated at base into a short petiole, tomentose and rough underneath, the upper surface whitened by the blistered and scabrous epidermis. *Flowers* in a loose terminal panicle. *Involucrum* many leaved, leaves subulate, fringed. *Florets* of the ray ten to twelve, yellow, of the disk very numerous. *Seed* obovate, compressed, glabrous. *Pappus* subulate, very acute, a little pubescent. *Scales* of the receptacle concave, three-toothed and hairy at the summit.

Grows near the mountains of Carolina. Dr. Macbride.

Flowers in September.

16. TOMENTOSUS.

H. caule aspero; foliis ovato-lanceolatis, superne attenuatis, acutis, serrulatis, supra scabris, subtus tomen-

Stem rough; leaves ovate-lanceolate, tapering to the summit, acute, serrulate; scabrous on the upper tosis, plerumque alternis; involucri squamis foliaceis, squarrosis, lanceolatis; paleis trifidis. E.

surface, tomentose underneath, generally alternate; scales of the involucrum leaf-like, squarrose, lanceolate; chaff 3-cleft.

Stem four to six feet high, pubescent and scabrous, sparingly branched. Upper *leaves* alternate, very long, ovate and oval-lanceolate, sometimes slightly acuminate, with fine and distant serratures. *Flowers* terminal, rather large, on short and robust peduncles. Leaves of the involucrum longer than the disk, ciliate with long tapering hispid summits. *Florets* of the ray twelve to fourteen, yellow; of the disk numerous, five-cleft, with the summits hairy. *Seeds* four-angled, slightly compressed. *Pappus* subulate. Chaff of the receptacle three-cleft, hairy towards the summit, the middle segment much larger than the lateral.

This plant appears to me to approach very near to the H. Tomentosus of Michaux; it is not the H. Mollis of Willd.; perhaps these plants, hitherto united, are really distinct.

Grows in the western districts of Georgia, and between the Chatahouchie and Alabama rivers.

Flowers August—October.

17. DECAPETALUS.

H. foliis ovatis, acuminatis, remote serratis, triplinervibus, concoloribus, supra scabris, subtus pubescentibus, scabriusculis; involucri squamis ovato-lanceolatis, subæqualibus, ciliatis.

Leaves ovate, acuminate, remotely serrate, triplinerved, uniformly coloured, scabrous on the upper surface, pubescent underneath, slightly scabrous; scales of the involucrum ovate-lanceolate, nearly equal, fringed.

Sp. pl. 3. p. 2241. Pursh, 2. p. 571. Nutt. 2. p. 178.

Root perennial. *Stem* three to four feet high, pubescent, scabrous, branching. *Leaves* towards the summit alternate, somewhat spathulate, the petioles fringed at base. *Flowers* in terminal panicles, large. Leaves of the involucrum long, equal, almost subulate but wide at base, beautifully fringed. *Florets* of the ray ten to twelve, lanceolate, yellow, nearly two inches long; of the disk numerous. *Anthers* longer than the florets of the disk. *Seed* long, compressed. *Pappus* subulate, much shorter than the seed, a little hairy. Chaff of the receptacle shorter than the florets of the disk, fringed near the summit.

Grows in dry soils, Pursh. Louisville, Georgia, Mr. Jackson.
Flowers August—October.

18. MULTIFLORUS.

H. foliis triplinervibus, scabris, inferioribus cordatis, superioribus ovatis; radio multifloro; involucri squamis lanceolatis.	Leaves triplinerved, scabrous, the lower cordate, the upper ovate; florets of the ray numerous; scales of the involucrum lanceolate.

Sp. pl. 3. p. 2239. Pursh, 2. p. 572. Nutt. 2. p. 178.

Root perennial. The lower *leaves* cordate, triplinerved. *Stem* and *peduncle* scabrous. Leaves of the involucrum forty to fifty, loosely imbricate, not squarrose. *Florets* of the ray very numerous.

Grows in dry mountain woods from Pennsylvania to Carolina. Pursh.
Flowers July—September.

19. GIGANTEUS.

H. foliis alternis, lanceolatis, serratis, scabris, obsolete triplinervibus, utrinque attenuatis, subsessilibus, basi ciliatis; involucri squamis lanceolatis ciliatis.	Leaves alternate, lanceolate, serrate, scabrous, obscurely triplinerved, tapering at each end, nearly sessile, ciliate at base; scales of the involucrum lanceolate, fringed.

Sp. pl. 3. p. 2242. Pursh, 2. p. 571. Nutt. 2. p. 177.

Root perennial. *Stem* very tall, branching, a little rough, particularly near the summit. *Leaves* generally attenuate, oblong, scabrous on the upper surface, paler and nearly smooth underneath. *Flowers* in a loose terminal panicle. *Involucrum* many leaved; leaves linear-lanceolate, hairy, fringed, rather longer than the disk. *Florets* of the ray twelve to fourteen, (twenty, Willd.) lanceolate, yellow, not large; of the disk very numerous. *Anthers* longer than the florets of the disk. *Seed* compressed, glabrous. *Pappus* subulate, longer than the seed. Chaff of the receptacle hairy at the summit, with two slight lateral teeth.

Grows in the mountains of Carolina.

Flowers August—October.

20. ALTISSIMUS.

H. foliis alternis, ovato-lanceolatis, serratis, scabris, triplinervibus, apice attenuatis, petiolatis; petiolis ciliatis; involucri squamis lanceolatis, ciliatis.	Leaves alternate, ovate-lanceolate, serrate, scabrous, triplinerved, tapering towards the summit, on petioles; petioles fringed; scales of the involucrum lanceolate, fringed.

Sp. pl. 3. p. 2273. Nutt. 2. p. 178. Pursh, 2. p. 571.

Resembles the preceding; but the *stem* is smooth and purple. *Leaves* petiolate, broader and almost ovate-lanceolate. *Leaves* of the involucrum shorter. *Florets* of the ray about sixteen. Willd.

With this species I am unacquainted.

Grows in mountain meadows from Pennsylvania to Carolina. Pursh.

Flowers July to September.

21. DIVARICATUS.

H. caule glabro, ramosissimo; foliis ovato-lanceolatis, triplinervibus, supra scabris, subtus glabriusculis; panicula multiflora, floribus minimis.	Stem glabrous, branching; leaves ovate-lanceolate, triplinerved, scabrous on the upper surface, glabrous underneath; panicle many flowered, flowers very small.

Sp. pl. 3. p. 570. Walt. p. 215? Mich. 2. p. 141. Pursh, 2. p. 570. Nutt. 2. p. 177.

Root perennial. *Stem* five to six feet high, glabrous, di and tri-chotomously divided, the branches much more numerous than usual in this genus. *Leaves* ovate-lanceolate, serrulate, with a long, tapering, somewhat acuminate point, scabrous on the upper surface, pubescent and sprinkled with glandular dots underneath, the lower ones opposite, the upper generally alternate, on petioles three to six inches long. *Flowers* very small, numerous, in terminal panicles. *Involucrum* imbricate, the leaves ovate-lanceolate, very acute, fringed. *Florets* of the ray five to ten? yellow, slightly three-toothed; of the disk tubular, yellowish, not very numerous. *Anthers* longer than the florets. *Seed* compressed. *Pappus* two very slender awns, hairy. Chaff of the receptacle concave, as long as the florets of the disk, hairy and slightly angled near the summit.

Grows in the mountains of Carolina and Georgia.

Var. *a.* Ferrugineus.

I place under this name a plant I received from Louisville, Georgia, which agrees with the preceding in size, habit, and conformation of the leaves and panicle; it differs in having its flower larger, its chaff more conspicuously three-cleft, the leaves more strongly serrate, all with the under surface ferruginous, almost tomentose, and covered with glandular dots.

22. Aristatus. E.

H? caule erecto, scabro; foliis inferioribus oppositis, arcte sessilibus, ovali-lanceolatis, acutis, dentatis, scabris, subtus pilosis; corymbo paucifloro; seminibus compressis, aristis (2) persistentibus. E.

Stem erect, scabrous; lower leaves opposite, closely sessile, oval-lanceolate, acute, toothed, scabrous, hairy underneath; flowers few, corymbose; seeds compressed, awns 2, persistent.

Stem two to three feet high, scabrous, branches rather slender, not numerous, the lower opposite, the upper sometimes alternate. *Leaves* pale green, veiny, not nerved, oval-lanceolate, irregularly toothed, sessile, the upper sometimes alternate, not decurrent. *Flowers* in a small terminal corymb. *Peduncles* slender, rather long. *Scales* of the involucrum ovate-lanceolate, imbricate, pubescent. *Florets* of the ray narrow, about one and a half inches long, yellow. *Scales* of the receptacle ovate, oblong, rather longer than the seed, which they almost envelope. *Seed* compressed, obovate, with two persistent rather unequal awns.

I insert this species with some hesitation. Its seed and receptacle are those of an Actinomeris, while its involucrum and habit approach nearly to the Helianthus. It belongs perhaps to an intermediate genus.

Grows in dry sessile soils in the western districts of Georgia.

Flowers September—October.

With the arrangement of the species in this genus I am not satisfied, but it may serve to facilitate examination. The division into opposite and alternate leaved species is, I suspect, not to be strictly relied upon. I have still some specimens which I have not described. The western districts of Georgia, and more particularly the state of Alabama, abound with plants of this genus, and many remain yet to be distinguished. But the want of Botanic Gardens in our country retards the progress, and impedes even the accuracy of investigation, for specimens frequently present not only inadequate but even erroneous impressions of the real structure and habit of a plant.

BIDENS. GEN. PL. 1267.

Involucrum duplex, exterius inæquale. *Corollulæ* radii plerumque 0. *Semina* tetragona, aristis 2—4 scabris instructa. *Receptaculum* paleaceum, planum.	*Involucrum* double, the exterior unequal. *Florets* of the ray frequently wanting. *Seed* 4-angled, furnished with 2—4 scabrous awns. *Receptacle* chaffy, flat.

1. CHRYSANTHEMOIDES. Mich.

B. floribus radiatis, cernuis; radiis involucro subæquali triplo longioribus; foliis oblongis, utrinque attenuatis, dentatis, basi connatis. Pursh.	Flowers radiate, nodding; florets of the ray thrice as long as the nearly equal involucrum; leaves oblong, tapering at each end, toothed, connate at base.

Sp. pl. 3. p. 1717. Mich. 2. p. 136. Pursh, 2. p. 566. Nutt. 2. p. 179.

Coreopsis Bidens, Walt. p. 215.

I have transcribed the specific character with only a verbal alteration from Pursh, because the plant I shall describe differs from it in several particulars and leads to a suspicion I have long entertained, that several species are now covered under this name.

Root annual? *Stem* erect and declining, about two feet high, smooth below, a little hairy towards the summit, with opposite branches and peduncles. *Leaves* opposite, sessile, somewhat connate, oblong lanceolate, serrate, glabrous. *Peduncles* sometimes opposite, sometimes from the division of the stem, three to six inches long, generally erect, one-flowered. *Involucrum* double, the exterior about eight-leaved, the leaves unequal, foliaceous, lanceolate, the largest as long as the florets of the ray, the interior eight-leaved, the leaves equal, lanceolate, membranaceous, about as long as the florets of the disk. *Florets* of the ray eight, lanceolate, bright yellow, bearing only the rudiments of a germ; of the disk numerous, small, tubular, yellowish. *Seeds* compressed, oblong, the pappus composed of two awns which together with the edges of the seed are retrorsely aculeate, and sometimes may be discovered one or two smaller awns on the flattened angles. *Receptacle* convex, chaffy; chaff concave, membranaceous, as long as the florets of the disk.

Grows in shallow pools, very abundant, enlivening and almost covering ponds and old rice fields at the close of autumn with its brilliant flowers.

Flowers October—November.

2. CONNATA.

B. floribus discoideis; involucro exteriore flore triplo longiore; foliis caulinis ternatis, foliolis lateralibus connatis, floralibus oblongo-lanceolatis.

Flowers discoid, exterior involucrum thrice as long as the flower; stem leaves ternate, lateral leaves connate, floral leaves oblong-lanceolate.

Sp. pl. 3. p. 1718. Pursh, 2. p. 566. Nutt. 2. p. 179.

Root perennial. *Stem* about two feet high, glabrous, branches opposite, *Leaves* opposite, lanceolate, dentate, glabrous, very much attenuated at base, paler or slightly glaucous (I describe from specimens) underneath, the lower ternate, the upper simple, all somewhat connate at base. *Peduncles* opposite, one-flowered. *Involucrum* double, the exterior foliaceous, much longer than the disk, the interior membranaceous, resembling the chaff of the receptacle. *Florets* of the ray 0; of the disk numerous, yellowish. *Seed* compressed; awns of the pappus subulate, retrorsely aculeate. Chaff of the receptacle nearly as long as the florets of the disk.

Grows in fields and woods, Canada to Carolina, Pursh. I have not seen it in the low country of Carolina.

Flowers July—October.

3. Pilosa.

B. floribus discoideis; involucro exteriore longitudine interioris; foliis inferioribus pinnatis, superioribus ternatis, foliolis oblongis, terminali lanceolato, reliquis duplo longiore.	Flowers discoid; exterior involucrum as long as the interior; lower leaves pinnate, the upper ternate, leaflets oblong, the terminal one lanceolate, twice as long as the rest.

Sp. pl. 3. p. 1720. Pursh, 2. p. 566. Nutt. 2. p. 179.

Root annual. *Stem* two to three feet high, branching, hairy. *Leaves* ovate-lanceolate, oblong, dentate, somewhat hairy, the lower sometimes doubly pinnate. *Flowers* opposite and terminal on long peduncles. Exterior *involucrum* leafy, the interior resembling scales. *Florets* of the ray 0; of the disk rather numerous, yellowish. *Seeds* oblong, narrow, terminating in two or three awns retrorsely aculeate.

The specimens I have seen under this name do not accord exactly with the figure of Dillenius. Hort. Elth. t. 53. f. 51.

Grows a common weed in old fields. Pursh.

Flowers July—October.

4. Frondosa.

B. floribus discoideis; involucro exteriore flore multo longiore, foliolis basi ciliatis; foliis inferioribus pinnatis, superioribus ternatis, lanceolatis, serratis.	Flowers discoid; exterior involucrum much longer than the flower, leaflets fringed at base; lower leaves pinnate, the upper ternate, lanceolate, serrate.

Sp. pl. 3. p. 1718. Walt. p. 201. Mich. 2. p. 136. Pursh, 2. p. 566. Nutt. 2. p. 179.

Root annual. *Stem* erect, three to four feet high, branching, sprinkled with a few hairs. *Leaves* lanceolate, very acute, serrate, somewhat ribbed, sprinkled like the stem with a few short hairs, the lower pinnate, the upper ternate and simple. *Peduncles* one-flowered, long, opposite and terminal. Exterior *involucrum* eight-leaved, the leaves linear-lanceolate, ciliate, unequal, much longer than the disk; the interior eight-leaved, leaves membranaceous, scarcely as long as the disk. *Florets* of the ray 0; of the disk tubular, yellowish. *Seeds* compressed, rugose; awns two, retrorsely aculeate. *Receptacle* flat, chaffy; chaff linear-lanceolate, falling with the seeds.

Grows in damp soils.

Flowers June—September.

5. BIPINNATA.

B. floribus subradiatis; involucro exteriore disco longiore; foliis bipinnatis, foliolis lanceolatis, pinnatifidis.	**Flowers irregularly radiate, exterior involucrum longer than the disk; leaves bipinnate, leaflets lanceolate, pinnatifid.**

Sp. pl. 3. p. 1721. Mich. 2. p. 135. Pursh, 2. p. 567. Nutt. 2. p. 179.

Root annual. *Stem* two to four feet high, glabrous, obtusely four-angled, branching, the branches opposite. *Leaves* decussate, glabrous, often doubly pinnatifid, the segments somewhat lanceolate, a little hairy along the margins. *Peduncles* long, generally terminal. Exterior *involucrum* eight-leaved, leaves linear-lanceolate, acute, nearly glabrous, unequal, longer than the disk, at first erect, afterwards expanding; interior eight-leaved, scarcely as long as the disk, fringed near the summit. *Florets* of the ray generally three, obovate, yellow, scarcely as long as the disk; of the disk about twenty, yellow, tubular. *Seed* oblong, slightly angled, nearly twice as long as the interior involucrum, crowned by three, sometimes four unequal, short awns. There is a striking difference in habit between this species and the B. Chrysanthemoides; there is also much difference in the seed, but as far as the seed is concerned, B. Frondosa and B. Pilosa, appear to connect intimately the two extremes.

Grows in dry soils—common.

Flowers July—October.

COREOPSIS. Gen. Pl.

Involucrum duplex, polyphyllum, exterius æquale. *Flores* radiati. *Semina* compressa, emarginata, bidentata, vel bisetosa, setis nec retrorsum aculeatis. *Receptaculum* paleaceum.	*Involucrum* double, many leaved, the exterior one equal. *Flowers* radiate. *Seeds* compressed, emarginate, two toothed or two awned; awns not retrorsely aculeate. *Receptacle* chaffy.
* *Foliis oppositis, indivisis.*	* *Leaves opposite, undivided.*

1. Lanceolata. Lin.

C. foliis sessilibus, lanceolato - linearibus, integerrimis, ciliatis; pedunculis elongatis, nudis; seminibus orbiculatis, scabris, alatis, apice bidentatis, emarginatis.	Leaves sessile, lanceolate-linear, entire, ciliate; peduncles long, naked; seed orbicular, scabrous, winged, two toothed at the summit, emarginate.

Sp. pl. 3. p. 2256. Walt. p. 215. Mich. 2. p. 137. Pursh, 2. p. 567. Nutt. 2. p. 179.

Root perennial, (bi-triennial, Dill.) *Stem* very short, divided at the base, procumbent, sprinkled with a few long hairs, the summits naked. *Leaves* opposite, sessile, linear-lanceolate, acute, entire, sometimes slightly undulate, fringed toward the base. *Flowers* solitary, on naked branches about a foot long. *Involucrum*, each about eight-leaved, all nearly of the same length, lanceolate, glabrous, membranaceous and coloured, (particularly the interior) along the margin. *Florets* of the ray about eight, bright yellow, dilated and toothed at the summit; of the disk somewhat numerous, yellowish. *Seeds* compressed, nearly black, winged and crowned with two small, subulate, hairy, deciduous awns. Chaff of the receptacle very narrow.

This species appears to differ much in size, and somewhat in habit, and may require further comparison. The plant which I have described above I collected around ponds a few miles from Darien, along the road to Fort Barrington. The pappus, as in the Helianthus, appears to be an appendage slightly attached to the seed, and differing from the pericarp in substance and colour.

In the C. Lanceolata as figured by Dillenius, (Hort. Elth. t. 48. f. 56.) the plant is altogether larger, and the lowest leaves have long attenuated bases.

Grows in damp soils.

Flowers April—May; perhaps through the summer. (August—October, Pursh.)

2. Crassifolia. Aiton.

C. foliis obovato-oblongis, integerrimis, basi attenuatis, hirsutis; pedunculis elongatis, basi hirsutis.	Leaves obovate-oblong, entire, tapering at base, hirsute; peduncles long, hirsute at base.

Sp. pl. 3. p. 2256. Nutt. 2. p. 179.
C. Lanceolata, var. *b.* Mich. 2. p. 137. Pursh, 2. p. 567.

Root perennial. *Stem* about two feet high, sparingly divided at base, striate, hairy below the upper pair of leaves. *Leaves* few, opposite, oblong, narrow, the lower attenuated at base, forming a petiole one to two inches long, very hairy. *Flowers* solitary, terminal. *Involucrum* nearly equal, glabrous. *Florets* of the ray about eight, bright yellow, dilated and toothed at the summit.

The leaves of this species though thicker than those of C. Lanceolata, scarcely merit the character of crassifolia; hirsuta would have been a more appropriate appellation.

Grows in pine barrens, in soils rather dry.

Flowers June—

3. Arguta. Pursh.

C. glabra; foliis petiolatis, lanceolato-ovatis, sensim acuminatis, argute serratis; pedunculis axillaribus termi-	Glabrous; leaves petiolate, lanceolate-ovate, gradually acuminate, acutely serrate; peduncles axillary and

minalibusque, dichotome corymbosis.	terminal,dichotomously corymbose.

Pursh, 2. p. 567.

Flowers of a middle size. Described by Pursh from specimens in the Herbarium of Sir Joseph Banks; supposed by Nuttall to be a variety of C. Latifolia.

Grows in Carolina, Pursh.

Flowers—

4. Latifolia. Mich.

C. foliis ovatis, acuminatis, crenato dentatis, dentibus mucronatis; petiolis brevibus, radiis integris; seminibus cuneato oblongis, apteris, apice nudis.	Leaves ovate, acuminate, crenately toothed with the teeth mucronate; petioles short; florets of the ray entire; seed cuneate oblong, without wings, naked at the summit.

Mich. 2. p. 137. Sp. pl. 3. p. 2257. Pursh, 2. p. 567. Nutt. 2. p. 179.

A tall plant with the habit of Silphium, flowers rather small. Mich. Pursh.

Grows on the highest mountains of Carolina, Mich.

Flowers July to September. Pursh.

5. Oemleri. E.

C. foliis lato lanceolatis, sessilibus, utrinque acutis, integerrimis; pedunculis axillaribus terminalibusque, sub dichotome corymbosis. E.	Leaves broad lanceolate, sessile, acute at each end, entire; peduncles axillary and terminal, dichotomously corymbose.

Connected with the two preceding species, which I have not had an opportunity of comparing, is the one I shall now describe; further examination must determine whether they are really distinct.

Stem two to three feet high, angular, glabrous. *Leaves* broad, entire, sessile, and connate by a small membrane, very glabrous, acute at each end but not acuminate. *Flowers* small, the lower opposite, axillary, the upper forming a dichotomous corymb. Exterior *involucrum* smaller than the interior, leaves lanceolate, glabrous. *Florets* of the ray about eight, entire, yellow; of the disk not very numerous. *Seed* compressed, cuneate, slightly bidentate and margined.

Collected near the junction of the Broad and Saluda rivers by Mr. Oemler.

Flowers July—August.

6. Rosea. Nutt.

C. parva, glaberrima; caule simplici; foliis linearibus, integerrimis; capitulis axillaribus terminalibusque, longe pedunculatis; seminibus integris, nudis.	Small, very glabrous; stem simple; leaves linear, entire; heads axillary and terminal, on long peduncles; seeds entire, naked.

Nutt. 2. p. 179.

Root perennial. *Stem* about twelve inches high, smooth, sometimes branching. *Leaves* about two inches long, opposite, connate, and sparingly ciliate at base, the axils producing small leaves or abortive branchlets. *Flowers* few, small, on peduncles about three inches long. Exterior *involucrum* very small, interior eight-leaved. *Florets* of the ray about eight, pale red, obsoletely three-toothed; of the disk not numerous, somewhat saffron coloured. *Seeds* entire, not emarginated, naked. Nutt.

Grows in damp pine barrens and grassy swamps, New-Jersey to Georgia. Nutt.

Flowers in August.

** *Foliis oppositis, divisis.*	** *Leaves opposite, divided.*

7. Auriculata.

C. pubescens; foliis subsessilibus, ovali-lanceolatis, integerrimis,	Pubescent; leaves nearly sessile, oval-lanceolate, entire, the

inferioribus ternatis; involucro exteriore profunde partito; radiis 4-dentatis; seminibus subrotundo-obovatis, apice bidentatis.

lower ternate; exterior involucrum deeply divided; florets of the ray 4-toothed; seeds obovate, nearly round, 2-toothed at the summit.

Sp. pl. 3. p. 2256. Walt. p. 215. Mich. 2. p. 138. Pursh, 2. p. 568.

Root perennial. *Stem* three to four feet high, pubescent, sometimes nearly glabrous. *Leaves* oblong-lanceolate, entire, finely pubescent, the upper sessile, the lower divided, having two lateral small leaflets near the base, which are also lanceolate, and a common petiole near an inch long. *Flowers* axillary and terminal. Exterior *involucrum* divided to the stem, as long as the interior. *Florets* of the ray about eight, dilated and toothed at the summit, bright yellow.

Grows on the high mountains of Carolina and Virginia.

Flowers August—October. Pursh.

Var. DIVERSIFOLIA.

C. foliis infimis trifoliatis, foliolis rotundatis, caulinis foliolis obovatis, supremis simplicibus, spathulato-lanceolatis, omnibus integerrimis, cauleque pilosis; seminibus subrotundis, denticulatis, apice bidentatis. E.

Lowest leaves trifoliate with the leaflets round, those of the stem with the leaflets obovate; the uppermost simple, spathulate-lanceolate, all entire and with the stem hairy; seed nearly round, denticulate, two-toothed at the summit.

This species differs in many respects from the preceding; the *stem* is short, dichotomously divided at the summit. The lowest *leaves* small, trifoliate, the folioles all orbicular; the next larger with the folioles sometimes obovate, sometimes nearly round; the upper spathulate-lanceolate; the whole plant instead of being covered with a fine pubescence, is sprinkled with long white glandular hairs. *Flowers* naked, on peduncles, nearly a foot long, proceeding from the division of the stem. *Calyx* and *corolla* as in the preceding variety. *Seed* nearly round, slightly bidentate, and finely toothed along the margins. Chaff of the receptacle very narrow, longer than the florets of the disk.

Collected in the middle country of Carolina by Mr. Whitlow.

Flowers May—

8. Senifolia. Mich.

C. pubescens; foliis sessilibus; trifoliolatis, foliolis lanceolatis, integerrimis; radiis integris; seminibus cuneatis.

Pubescent; leaves sessile, trifoliate, the leaflets lanceolate, entire; florets of the ray entire; seed cuneate.

Mich. 2. p. 138. Sp. pl. 3. p. 2254. Pursh, 2. p. 568. Nutt. 2. p. 180.
C. Major, Walt. 214.

Root perennial. *Stem* two to three feet high, generally branching near the summit, pubescent, angled. *Leaves* opposite, closely sessile, trifoliate, forming apparently a six-leaved verticill, leaflets lanceolate, slightly acuminate, pubescent. *Peduncles* opposite, brachiate, forming a terminal corymb. Exterior *involucrum* as long as the interior, both very pubescent. *Florets* of the ray about eight, narrow lanceolate, yellow, externally pubescent, slightly toothed near the summit. (*Seeds* oblong, cuneate, Mich.)

The whole plant sometimes nearly glabrous, Mich. In a specimen which I possess that appears to belong to the glabrous variety of Mich. the middle leaf of the verticill is sometimes three-parted, which I have never observed in the common plant, and the exterior involucrum is much smaller than the interior; these characters seem to indicate a distinct species.

Grows in dry pine lands.

Flowers June—August.

9. Verticillata.

C. subglabra; foliis oppositis, sessilibus, trifoliolatis, interdum quinato-pinnatis, foliolis lineari-lanceolatis, integerrimis; radiis acutis; seminibus obovatis, lævissime bidentatis.

Nearly glabrous; leaves opposite, sessile; trifoliate, sometimes quinate; leaflets linear-lanceolate, entire; florets of the ray acute, seed obovate, very slightly 2-toothed.

Sp. pl. 3. p. 2151. Walt. p. 214. Mich. 2. p. 139. Pursh, 2. p. 569. Nutt. 2. p. 180.

Root perennial. *Stem* erect, two to three feet high, angled, striate, glabrous, branching near the summit. *Leaves* sessile, forming a six-leaved verticill. The middle leaflet of each leaf frequently three-parted, the leaflets all narrow, apparently smooth, yet frequently covered with a fine pubescence. *Flowers* corymbose, peduncles opposite and terminal. Exterior *involucrum* generally ten-leaved, leaflets small, linear obtuse, irregularly arranged at base; interior eight-leaved, leaflets lanceolate, yellowish, and reflected at the summit. *Florets* of the ray eight, lanceolate, acute, yellow; of the disk numerous, yellowish. *Anthers* dark purple. *Seeds* compressed, winged, slightly bidentate. Chaff of the receptacle filiform, dilated at the summit.

Grows in dry soils.

Flowers June—August.

10. TENUIFOLIA. Willd.

C. glabra; foliis oppositis, sessilibus, trifoliolatis, foliolis composite multipartitis, segmentis linearibus, integerrimis.

Glabrous; leaves opposite, sessile, trifoliate, leaflets compoundly many parted, segments linear, entire.

Sp. pl. 3. p. 2252. Pursh, 2. p. 569. Nutt. 2. p. 180.
C. Verticillata, var. Tenuifolia, Mich. 2. p. 139.

Root perennial. *Stem* two to three feet high, glabrous, branching towards the summit, slightly angled. *Leaves* sometimes deeply three-parted, sometimes seeming to form a verticill of six distinct leaves, the divisions or leaves all many parted, sometimes compoundly, the segments all linear and entire. *Flowers* corymbose. *Peduncles* opposite and terminal. Exterior *involucrum* nearly as large as the interior, leaflets about eight, narrow and lanceolate. *Florets* of the ray eight, yellow, acute. The *seed* of this species I have not had an opportunity of examining.

Grows in the upper districts of Carolina. Dr. Macbride.

Flowers July and August.

11. TRICHOSPERMA. Mich.

C. glabella; foliis subquinato - pinnatis, lineari-lanceolatis, serratis; floribus corymbosis; involucri exteri-

Glabrous; leaves generally quinate, pinnate, linear-lanceolate, serrate; flowers in corymbs; leaves of the

oris foliolis ciliato serratis; radiis integris; seminibus cuneatis, 2—4 dentatis.	exterior involucrum ciliate, serrate, florets of the ray entire; seeds cuneate, 2—4 toothed.

Mich. 2. p. 139. Willd. 2. p. 2252. Pursh, 2. p. 568. Nutt. 2. p. 180.

Root perennial, (biennial, Pursh.) *Stem* two to three feet high, glabrous, branching towards the summit. *Leaves* opposite, somewhat pinnate, the leaflets or segments five to seven, generally more or less notched, thin, glabrous. *Flowers* on peduncles, opposite and terminal, the upper divisions sometimes dichotomous. Exterior *involucrum* eight-leaved, leaves oblong, obtuse, sometimes obovate, ciliate; the interior eight-leaved, leaves lanceolate, striate, coloured, particularly along the margin. *Florets* of the ray eight, lanceolate, yellow, entire; of the disk yellowish. *Seeds* oblong, compressed, two to four toothed. Chaff of the receptacle linear-lanceolate.

This species appears to vary much, perhaps more than one is now covered under this name.

In specimens sent me from Boston by Dr. Bigelow, the stem is square, the leaflets generally seven, very narrow, (linear,) deeply notched, almost pinnatifid, the flowers large. In specimens sent me from New-York by Dr. Torrey, the stem is nearly round or very obtusely angled, the leaflets five, thin, narrow lanceolate, strongly toothed, the flowers smaller.

Grows in wet soils, in the upper districts of Carolina. Mich.

Flowers August—October.

12. Mitis. Mich.

C. glaberrima; foliis bipinnatifidis, pinnis linearibus, serrulatis; involucri exterioris foliolis linearibus serrulatis; seminibus oblongis biaristatis.	Very glabrous; leaves bipinnatifid, the segments linear, serrulate; leaves of the exterior involucrum linear, serrulate; seeds oblong, 2-awned.

Mich. 2. p. 140. Sp. pl. 3. p. 2253. Pursh, 2. p. 569. Nutt. 2. p. 150.

C. Coronata, Walt. 2. p. 15.

(*Root* biennial, Pursh.) *Stem* three to four feet high, obtusely four angled, with very numerous brachiate branches. *Leaves* decussate, bipinnatifid, the segments slightly scabrous on the upper surface, the uppermost sometimes simply three-parted. *Flowers* in a loose terminal panicle.

Leaves of the exterior *involucrum* eight, linear, acute, as long as those of the interior; of the interior lanceolate, pubescent at base, dotted. *Florets* of the ray eight, obovate, obscurely three-toothed; of the disk numerous, yellow. *Anthers* dark purple. *Seed* compressed, with the margin serrulate, nearly as long as the florets of the disk. Chaff of the receptacle linear, obtuse, longer than the florets of the disk, spotted near the summit with purple.

Grows in wet grounds.

Flowers August and September.

13. ARISTATA. Mich.

C. pubescens; foliis quinato pinnatis, foliolis serratis; radiis integris, lato ovalibus; seminibus cuneato-obovatis, biaristatis; aristis longissimis, divaricatis. Mich.

Pubescent; leaves quinate, pinnate, the leaflets serrate; florets of the ray entire, broad, oval; seed cuneate-obovate, 2-awned; awns very long, divaricate.

Mich. 2. p. 140. Sp. pl. 3. p. 2250. Pursh, 2. p. 568. Nutt. 2. p. 180.

Flowers large, rays very broad, Pursh. With this species I am unacquainted.

Grows in Carolina, Pursh. In Illinois, Mich.

Flowers August—September.

14. PUBESCENS. E.

C. pubescens; foliis quinato-pinnatis, foliolis lanceolatis, obtusis, integerrimis, lateralibus parvulis; involucri exterioris foliolis ovato-lanceolatis; radiis undulatis? pappo diphyllo, foliolis subulatis, pubescentibus. E.

Pubescent; leaves quinate, pinnate, leaflets lanceolate, obtuse, entire, the lateral ones small; leaves of the exterior involucrum ovate-lanceolate; florets of the ray undulate? pappus 2-leaved, subulate, pubescent.

Root perennial. *Stem* about two feet high, obtusely angled, producing a few opposite branches and with the whole plant very pubescent, almost tomentose. First leaves simple, lanceolate, the mature leaf unfolding two pair of small, lateral leaflets. *Flowers* terminal, on the long, almost naked branches. Leaves of the exterior *involucrum* eight, ovate-lanceolate, slightly acuminate, as long as the interior, nearly glabrous. *Florets* of the ray eight, yellow, dilated at the summit, and from specimens appearing to be undulate. *Seed* nearly round, slightly winged, emarginate and crowned with a short pappus more resembling a leaf than an awn. Chaff of the receptacle linear, acute, longer than the florets of the disk.

Grows in the western districts of Georgia.

Flowers August—September.

15. TRIPTERIS. Lin.

C. glabra; foliis petiolatis, lanceolatis, integerrimis, radicalibus pinnatis, caulinis trifoliolatis; radiis integris; seminibus obovatis, apice nudis.	Glabrous; leaves petiolate, lanceolate, entire, those of the root pinnate, of the stem trifoliate; florets of the ray entire; seed obovate, naked at the summit.

Sp. pl. 3. p. 2253. Mich. 2. p. 138. Pursh, 2. p. 568. Nutt. 2. p. 180.

Root perennial. *Stem* four to six feet high, terete, fistulous, glabrous, branching near the summit. *Leaves* opposite, the upper trifoliate; leaflets lanceolate, acute, entire, glabrous, slightly ribbed, scabrous along the margins. *Flowers* rather small, in a loose terminal corymb. Leaves of the exterior *involucrum* linear, shorter than the interior; of the interior lanceolate, coloured, particularly along the margin. *Florets* of the ray eight, yellow, narrow lanceolate, entire; of the disk numerous, yellowish. Chaff of the receptacle linear, longer than the florets of the disk. *Seeds* obovate, slightly winged, emarginate at the summit.

Grows in the upper districts of Carolina and Georgia; very abundant in the western districts of Georgia.

Flowers August—October.

16. NUDATA. Nutt.

C. caule subsimplici, superne dichotomo; foliis subulato linearibus, remotis, glabris, supremis parvulis; radiis roseis; seminibus nudis. Nutt.

Stem nearly simple, dichotomous towards the summit; leaves subulate, linear, remote, glabrous, the uppermost small; florets of the ray rose coloured; seeds naked.

Nutt. 2. p. 179.

Stem two to three feet high, round, smooth, striate. *Leaves* few, rarely more than two which are conspicuous, the lower five to six inches long, the upper about an inch, both linear, those near the summit very minute. *Flowers* four to six on the summit of the dichotomous stem, the peduncles or branches four to five inches long. Exterior *involucrum* minute. *Florets* of the ray red. Nutt.

Grows near St. Mary's, Georgia.

Flowers—

*** *Foliis alternis.*

*** *Leaves alternate.*

17. ANGUSTIFOLIA. Aiton.

C. foliis lineari-lanceolatis, integerrimis, lævibus; radiis oblongis, trifidis, lacinia media majore.

Leaves linear-lanceolate, entire, smooth; florets of the ray oblong, 3-cleft, the middle segment larger.

Sp. pl. 3. p. 2257. Pursh, 2. p. 569. Nutt. 2. p. 180.

With this species I am not acquainted.

Grows in Carolina and Florida. Bartram.

18. Gladiata. Walt.

C. caule glabro, superne dichotomo; foliis angusto-lanceolatis, integerrimis, crassis, in petiolum attenuatis; seminibus obovatis, alatis, alis serrulatis; pappo bisetoso.

Stem glabrous, dichotomous towards the summit; leaves narrow lanceolate, entire, thick, tapering to a petiole; seeds obovate, winged, the wings serrulate; pappus 2-awned, bristly.

Walt. p. 215. Nutt. 2. p. 180.
C. Dichotoma, Mich. 2. p. 137. Pursh, 2. p. 569.

Root perennial. *Stem* two to three feet high, slightly furrowed, dichotomously divided towards the summit. *Leaves* acute, somewhat succulent, those of the root tapering to a petiole three to six inches long. *Flowers* terminal. Exterior *involucrum* six to ten leaved, smaller than the interior, leaves lanceolate, irregularly inserted, expanding; interior eight-leaved, leaves lanceolate, coloured. *Florets* of the ray eight, yellow, dilated and three-lobed at the summit; of the disk numerous, dark purple. *Seeds* oblong, obovate, compressed. *Pappus* hairy, about half as long as the florets of the disk. Chaff of the receptacle linear-lanceolate, dark purple, as long as the florets of the disk.

Grows generally in damp pine barrens.

Flowers August—September.

19. Acuta. Pursh.

C. foliis ovato-lanceolatis, acutis, denticulatis, subhirtis; floribus corymboso-paniculatis.

Leaves ovate-lanceolate, acute, toothed, somewhat hairy; flowers in corymbose panicles.

Pursh, 2. p. 569. Nutt. 2. p. 180.

With this species, which was described by Pursh from specimens in the Herbarium of Sir Joseph Banks, I am unacquainted.

Grows in Georgia. Bartram.

Flowers—

LEPTOPODA. Nuttall.

Involucrum polyphyllum, foliis duplici serie. *Flosculi* radii apice dilatati, 3-fidi. *Semina* cylindracea. *Pappo* membranaceo, sub 8-phyllo, coronata. *Receptaculum* convexum, nudum.

Involucrum many leaved, leaves in a double series. *Florets* of the ray dilated at the summit, 3-cleft. *Seeds* cylindrical, crowned with a membranaceous pappus, generally 8-leaved. *Receptacle* convex, naked.

1. PUBERULA. Macbride.

L. caule viscido-pubescente, stricto; foliis alternis, lineari-lanceolatis, semi amplexicaulibus, glabris, punctatis, caulinis inciso dentatis; paleis pappi fimbriatis.

Stem viscidly pubescent, striate; leaves alternate, linear-lanceolate, semi amplexicaule, glabrous, dotted, those of the stem notched and toothed; chaff of the pappus fimbriate.

Galardia Fimbriata, Mich. 2. p. 142. Pursh, 2. p. 573.
Helenium Vernale, Walt. p. 210.

Root perennial. *Stem* about two feet high, simple, very pubescent towards the summit, fistulous. *Leaves* alternate, those of the root sometimes a little obovate, generally linear-lanceolate, slightly repand, with an occasional serrature, generally decaying before the expansion of the flower; those of the stem linear-lanceolate, with a few deep indentations. *Flower* solitary, terminal. *Involucrum* many leaved, with the leaves arranged in two series, the exterior eighteen to twenty, equal, subulate, pubescent, nearly twice as long as the interior, the interior somewhat lanceolate, pubescent. *Florets* of the ray numerous, (nearly thirty,) yellow, dilated towards the summit, three to four-cleft; of the disk very numerous, tubular, five-cleft. *Stamens* rather longer than the florets of the disk. *Seed* somewhat clavate, hairy. *Pappus* eight to twelve-leaved, with the leaves membranaceous, fimbriate towards the summit. *Receptacle* convex, dotted.

Grows near the Santee River in damp soils. St. John's, Berkeley. St. James, Santee.

Flowers in April.

2. DECURRENS. Macbride.

L. caule glaberrimo; foliis lineari-lanceolatis, denticulatis, glabris, decurrentibus; paleis pappi fimbriatis.	Stem very glabrous; leaves linear-lanceolate, toothed, glabrous, decurrent; chaff of the pappus fimbriate.

L. Helenium, Nutt. 2. p. 174.

Root perennial. *Stem* about twelve to eighteen inches high, simple, glabrous, furrowed, not fistulous. *Leaves* much longer than those of the preceding species, similar but distinctly decurrent, more slightly denticulate. *Flower* solitary, terminal. *Involucrum* many leaved, in two series; the exterior (eighteen) subulate, a little hairy at the summit, expanding, finally erect, (are these to be considered as scales belonging to the florets of the ray?) *Florets* of the ray eighteen to twenty, cuneate, yellow, pubescent on the outer surface, three-cleft at the summit; of the disk very numerous, with the border five-cleft. *Stamens* a little longer than the corolla. *Style* two-cleft; stigma somewhat capitate. *Seeds* cylindric, glabrous. *Pappus* about eight-leaved, leaves membranaceous, awned, fimbriate. *Receptacle* convex, glabrous, dotted.

Grows in damp soils—along the head branches of Cooper River. Dr. Macbride. In wet pine barrens, Chatham and Bryan counties, Georgia.

Flowers March—April.

As fimbriata, the name applied to one of these plants by Michaux is derived from a generic character applicable to both, and helenium not appropriate, I have taken the liberty of distinguishing these two species by the names given to them by Dr. Macbride, when many years ago he first pointed them out to me as distinct, though hitherto confounded.

BALDUINA. Nuttall.

Involucrum polyphyllum, imbricatum, squarrosum. *Receptaculum* convexum, cel-	*Involucrum* many leaved, imbricate, squarrose. *Receptacle* convex, cellular. *Seed*

lulosum. *Semina* in cellulis. *Pappus* paleis 10, erectis, acutis.	in the cells. *Chaff* of the pappus 10, erect, acute.

1. Uniflora. Nutt.

B. caule unifloro, simplici, pubescente; foliis anguste obovatis, integerrimis; pappo semen æquante.	Stem one-flowered, simple, pubescent; leaves narrow, obovate, entire; pappus as long as the seed.

Nutt. 2. p. 175.

Root perennial. *Stem* about two feet high, slightly angled. *Leaves* obovate, with an oblong tapering base, dotted, somewhat succulent when young, pubescent. *Involucrum* many leaved, leaflets ovate, acuminate, the interior mucronate, squarrose. *Florets* of the ray numerous, (nearly thirty,) yellow, three-toothed at the summit, externally pubescent; of the disk very numerous, tubular, yellow, covered near the summit with a glandular pubescence. *Stamens* about as long as the florets of the disk. *Style* scarcely longer than the stamens. *Seed* nearly cylindrical, a little enlarged towards the summit, hairy. *Pappus* as long as the seed, if not longer. *Scales* membranaceous, erect, generally acute, (surrounded at base by a white, fimbriate, exterior pappus?) *Receptacle* convex, deeply honey-comb, the cells somewhat hexangular, with a denticulate summit, and sufficiently deep to enclose the seed and its pappus.

Grows in damp soils and along the margins of swamps in the middle country of Carolina and Georgia.

Flowers July—September.

2. Multiflora. Nutt.

B? caule ramoso, multifloro, glaberrimo; foliis linearibus; involucri foliolis acuminatis; pappo brevi, cupulato.	Stem branching, many flowered, glabrous; leaves linear; leaves of the involucrum acuminate; pappus short, cup-shaped.

Nutt. 2. p. 176.

Root perennial? *Stem* two to three feet high, terete, glabrous, with very numerous branches. *Leaves* linear, almost setaceous, glabrous, alternate, sessile. *Flowers* terminal, somewhat fastigiate. *Involucrum* many leaved, imbricate, the leaves narrow ovate, acuminate, equal, covered with glandular atoms and arranged nearly in two series. *Florets* of the ray small, yellow; of the disk numerous, yellowish. (*Anthers* bisetose at base, Nutt.) *Seed* inversely conic, very acute at base, clothed with a glossy silken pubescence, radiated on the summit. *Pappus* short, expanding, obtuse, almost truncate, the scales fourteen? generally equal to the rays on the summit of the seed. *Receptacle* nearly globular, cellular, the cells much deeper than the included seed and pappus, somewhat hexagonal, with six acuminate teeth, each of which from its structure is necessarily common to three cells.

Grows in the sand hills along the Altamaha, near Fort Barrington.

Flowers in the autumn.

As it is considered incorrect to change names once publicly given, I have continued the name imposed upon this genus, however reluctant the gentleman to whom it is dedicated was to have it preserved. The two species, however, are scarcely congeners; they differ in habit, in their involucrum, and still more essentially in their seed and pappus. Indeed the bisetose anthers and deep cellular receptacle seem alone to unite them. To the former I had originally given the name of Favosa. The second, as far as imperfect specimens will permit me to describe it, offers the following characters.

ACTINOSPERMUM. *Involucrum* polyphyllum, foliis equalibus, duplici serie imbricatis. *Receptaculum* sub globosum, profunde favosum, cellulis hexagonis, 6-dentatis. *Semina* obconica, summitate radiata. *Pappus* polyphyllus, (12—14) cupulatim patens.

When a mature head of this plant is first examined, the seed are seen nestling in the bottom of the cells, exhibiting nothing but their radiated summits, and resembling in a striking manner some of the starry madrepores.

GALARDIA. Fougeroux.

Involucrum polyphyllum, foliis subæqualibus. *Corollulæ* radii tripartitæ. *Pappus* paleaceus, paleis 8—10 aristatis. *Receptaculum* convexum, setosum.	*Involucrum* many leaved, leaves nearly equal. *Florets* of the ray three-parted. *Pappus* chaffy, chaff 8—10 awned. *Receptacle* convex, bristly.

1. Bicolor.

Sp. pl. 3. p. 2245. Pursh, 2. p. 572. Nutt. 2. p. 175.
G. Lanceolata, Mich. 2. p. 142.

Root perennial. *Stem* herbaceous, about two feet high, pubescent, sparingly branched, with the branches twiggy and naked. *Leaves* alternate, sessile, linear-lanceolate, acute, pubescent, with a few serratures, fringed, the hairs of the fringe hooked. *Flowers* solitary, terminal. *Involucrum* many leaved, leaves arranged in two series, the exterior (9) reflexed, the interior (12—13) erect, all lanceolate, acute, pubescent. *Florets* of the ray about eight, dilated at the summit, three-cleft, with the segments unequal, yellow; of the disk numerous, tubular, deeply five-cleft, the segments linear, glandular, at first yellowish, afterwards dark purple. *Stamens* shorter than the corolla. *Anthers* yellow. *Style* of the ray 0; of the disk longer than the stamens, two-cleft. *Seeds* slightly turbinate, clothed with white hair. *Pappus* eight or nine leaved, leaves membranaceous, terminating in a long awn, with the awn as long as the corolla. *Receptacle* conic, glabrous? dotted.

The plant which I have described is certainly the G. Lanceolata of Michaux. I have doubts whether it is the G. Bicolor of Willdenow.

Grows in the dry pine barrens in the middle country of Georgia.

Flowers May—August.

RUDBECKIA. Gen. Pl. 1324.

Involucrum subæquale, duplici ordine squamarum. *Pappus* margine quadridentato. *Receptaculum* conicum, paleaceum.	*Involucrum* nearly equal, scales in a double series. *Pappus* with a 4-toothed margin. *Receptacle* conic, chaffy.
* *Involucro imbricato; paleis receptaculi mucronatis.*	* *Involucrum imbricate; chaff of the receptacle mucronate.*

1. Purpurea.

R. aspera; foliis inferioribus lato ovatis, basi attenuatis, remote	Rough; lower leaves wide, ovate, tapering at base, remotely too-

dentatis, caulinis lanceolato-ovatis, subintegerrimis, utrinque acuminatis; radiis longissimis, deflexis, bifidis.

thed, those of the stem lanceolate, ovate, nearly entire, acuminate at each end; florets of the ray very long, deflected, two-cleft.

Sp. pl. 3. p. 2249. Walt. p. 214. Mich. 2. p. 143. Pursh, 2. p. 573. Nutt. 2. p. 178.

Root perennial. *Stem* four to five feet high, sparingly branched, sometimes a little roughened, often smooth. *Leaves* ovate-lanceolate, slightly acuminate, triplinerved, scabrous on both surfaces, tapering at base to a petiole and varying much in the length of the petiole and the coarseness of the serratures. *Flowers* large, terminal. Leaves of the *involucrum* numerous, linear-lanceolate, fringed, imbricate, at least in four or five series, squarrose. *Florets* of the ray about twelve, purple, two inches long, narrow, two-cleft at the summit, reflected; of the disk numerous, small. *Seed* four-angled, inversely pyramidal, the summit concave and crenulated. *Receptacle* convex, chaffy, the chaff narrow, acuminate, nerved, glabrous, longer than the seeds and florets, and with their acute, rigid points forming a hispid capitulum.

This species appears at present to exhibit many varieties. It differs so much in its generic characters, in involucrum, seed, and chaff of the receptacle, from most if not all of the other species of the genus, that it will probably be separated and its distinct varieties established as species.

Grows in the upper and mountainous districts of Carolina and Georgia—in the western districts of Georgia common.

Flowers August—October.

** *Involucro subæquali; paleis inermibus.*

** *Involucrum nearly equal; chaff unarmed.*

2. Pinnata. Mich.

R. foliis omnibus pinnatis, pinnis inferioribus interdum bipartitis; pappo integerrimo; caule sulcato hispido.

Leaves all pinnate, lower segments sometimes 2-parted; pappus entire; stem furrowed, hispid.

Mich. 2. p. 144. Pursh, 2. p. 576. Nutt. 2. p. 179.

Flowers very showy; *florets* of the ray long, bright yellow, hanging downwards; disk ovate, purple. Pursh.

Grows in the western parts of Carolina and Georgia. Pursh.

Flowers July—October.

3. Digitata.

R. foliis inferioribus pinnatis, pinnis pinnatifidis, superioribus simplicibus pinnatis, summis 3-fidis; pappo crenato; caule lævi.

Lower leaves pinnate, the segments pinnatifid, the upper simple, pinnate, the highest 3-cleft; pappus crenate; stem smooth.

Sp. pl. 3. p. 2247. Pursh, 2. p. 575. Nutt. 2. p. 179.

Root perennial. *Stem* five to eight feet high, branching, glabrous. *Leaves* thin, slightly scabrous, the segments more or less toothed, generally lanceolate, acute. *Flowers* terminating the branches. Leaves of the *involucrum* not numerous, ovate-lanceolate, a little hairy, shorter than the disk. *Florets* of the ray yellow; of the disk numerous. *Seeds* oblong, four-angled, crowned with a short crenate or rather four-toothed margin. Chaff of the receptacle nearly truncate, almost tomentose at the summit, shorter than the seed.

Grows in the mountains of Carolina and Georgia.

Flowers August—October.

4. Laciniata.

R. foliis inferioribus pinnatis, pinnis 3-lobis, summis ovatis; pappo crenato; caule glabro.

Lower leaves pinnate, the segments 3-lobed, the upper ovate; pappus crenate; stem glabrous.

Sp. pl. 3. p. 2246. Mich. 2. p. 144. Pursh, 2. p. 575. Nutt. 2. p. 179.

Root perennial. *Stem* five to eight feet high, branching, glabrous. *Leaves* of the root and lower stem strictly trifoliate, with the upper foliole three-parted, all lanceolate, acuminate, coarsely toothed, sometimes laciniate, scabrous on the upper surface and along the margins, nearly smooth underneath; upper leaves ovate, nearly sessile, sometimes toothed. *Flowers* in a loose, terminal, somewhat corymbose panicle. Leaves of the *involucrum* ovate-lanceolate, small, much shorter than the receptacle. *Florets* of the ray about six, yellow, obovate, three-toothed; of the disk numerous, yellowish. *Seed* four-angled, crowned with a crenate margin. Chaff of the receptacle obtuse, tomentose at the summit.

This species such as I have described it, grows abundantly in the western districts of Georgia. In a specimen of this plant sent me by Dr. Muhlenberg from Pennsylvania, the segments of the lower leaves are all entire, smaller and but slightly acuminate. Do they belong really to the same species?

Flowers August—October.

5. TRILOBA.

R. hispido-pilosa; caule paniculato, ramis divaricatis foliosis; foliis lanceolatis, utrinque acuminatis, serratis, inferioribus trilobis; involucri squamis linearibus, deflexis.	Hairy, hispid; stem paniculate, branches divaricate, leafy; leaves lanceolate, acuminate at each end, serrate, the lower three-lobed; scales of the involucrum linear, deflected.

Sp. pl. 3. p. 2247. Mich. 2. p. 144. Pursh, 2. p. 575. Nutt. 2. p. 178.

Root perennial. *Stem* four to five feet high, branching, somewhat scabrous, and hairy. Lower *leaves* deeply three-parted, the middle segment large, lanceolate, serrate, a little hairy; the lateral segments nearly entire; the base attenuated and very hairy; upper leaves lanceolate, serrate, sessile. *Flowers* numerous, on the summits of the branches. Leaves of the *involucrum* linear-lanceolate, reflected, about half as long as the rays. *Florets* of the ray about eight, lanceolate, deflexed, yellow, the base and exterior surface becoming deep orange when dry; of the disk numerous, dark purple. *Seed* four-angled, crowned with a four-toothed margin. *Receptacle* conic, chaff lanceolate, acuminate, longer than the seeds.

Grows in the mountains of Carolina and Georgia. Saluda mountains, Dr. Macbride.

Flowers August—October.

6. TOMENTOSA.

R. brevi pubescentia subtomentosa; caule ramoso, ramis erectis virgatis; foliis lanceolatis, acutis, inciso-dentatis integrisve, scabris, inferioribus trifoliolatis; involucri squamis lineari-lanceolatis, deflexis, radiis multo brevioribus. E.

Plant covered with a short tomentum; stem branching, branches erect, virgate; leaves lanceolate, acute, deeply toothed and entire, scabrous, the lower trifoliate; scales of the involucrum linear-lanlanceolate, deflected, much shorter than the florets of the ray.

R. Subtomentosa, Pursh, 2. p. 575?
R. Triloba, var. Subtomentosa, Mich. 2. p. 144?

Root perennial. *Stem* three to four feet high, slightly furrowed, pubescent, bearing very many virgate branches. *Leaves* alternate, sessile, three-nerved, scabrous and covered with a fine somewhat tomentose pubescence; the lower nearly trifoliate, having two small lateral leaves at the base; the middle leaflet lanceolate, sometimes deeply notched, sometimes entire; the upper leaves lanceolate, entire. Leaves of the *involucrum* linear-lanceolate, or subulate, tomentose and deflected. *Florets* of the ray about eight, yellow, two-cleft at the summit, three times as long as the involucrum. *Florets* of the disk very numerous, of a brownish yellow. *Seed* four-angled; pappus obsolete, the summit of the seed slightly toothed. *Receptacle* oblong, oval, chaff truncated, longer than the seed, tomentose at the summit.

I am uncertain whether this is the R. Subtomentosa of Mich. and Pursh. It is a very distinct species from the R. Triloba, to which in fact it has no resemblance but in its tripartite leaves.

Grows in the western districts of Georgia.

Flowers August—September.

7. MOLLIS. E.

R. caule hispido-villoso, ramoso; foliis sessilibus, ovali-lanceolatis, dentatis, mollissime tomentosis; radio mul-

Stem hispid, villous, branching; leaves sessile, oval-lanceolate, dentate; soft, tomentose; florets of the ray

tifloro, involucro triplo longiore. E.	numerous, thrice as long as the involucrum.

Root perennial. *Plant* two to three feet high, very much divided, a little scabrous and clothed with long and somewhat hispid hair. *Leaves* alternate, sessile, semiamplexicaule and slightly cordate, villous near the base, tomentose on both surfaces, the lowest probably spathulate. *Flowers* terminal. *Scales* of the involucrum lanceolate, expanding, or deflected, very hairy. *Florets* of the ray twelve to twenty, lanceolate, two-cleft at the summit, yellow; of the disk very numerous, dark purple. *Seeds* four-angled, the margin obsolete or slightly four-toothed. *Receptacle* convex, chaff concave, linear-lanceolate, as long as the florets of the disk, externally tomentose near the summit; among the exterior rows of the chaff setaceous bristles longer than the seed are also interposed.

Grows in the western districts of Georgia.

Flowers August—October.

8. LÆVIGATA. Pursh.

R. undique glaberrima; foliis ovato-lanceolatis, utrinque acuminatis, triplinervibus, parce dentatis; involucri squamis lanceolatis, longitudine radii.	Everywhere smooth; leaves ovate-lanceolate, acuminate at each end, triplinerved, sparingly toothed; scales of the involucrum lanceolate, as long as the ray.

Pursh, 2. p. 574. Nutt. 2. p. 178.

Leaves sub-coriaceous, very smooth and lucid, those of the root spathulate ovate, obtuse, those of the stem not acuminate. *Peduncles* few, long, naked. *Flowers* fastigiate, disk oblong. Nutt. *Florets* of the ray pale yellow, short. Pursh.

Grows in the pine barrens of Georgia.

Flowers—

9. DISCOLOR.

R. ramis corymbosis, unifloris, pedunculis nudis, elongatis; fo-	Branches corymbose, 1-flowered, peduncles naked, long; leaves

liis lanceolatis, strigoso-pilosis, subintegerrimis, involucri foliolis ovatis, acutis, petalis lanceolatis, integerrimis, discoloribus, longitudine involucri.

lanceolate, hairy, strigose, nearly entire; scales of the involucrum ovate, acute; petals lanceolate, entire, two-coloured, as long as the involucrum.

Pursh, 2. p. 574.

I know not whether the plant I am about to describe be the real R. Discolor of Pursh; it has many points of resemblance.

Plant about two feet high, a little hairy, with a few long, slender naked branches. *Leaves* alternate, sessile, spathulate-lanceolate, triplinerved, finely and sparingly denticulate, sprinkled like the stem with very short hair, sometimes slightly cordate at base. *Flowers* few, small, terminal. The leaves of the *involucrum* oval, rather obtuse, a little hairy. *Florets* of the ray twelve to fourteen, lanceolate, two-cleft at the summit, externally hairy, scarcely longer than the involucrum; of the disk very numerous, dark purple. *Seeds* four-angled; the pappus a slight margin. *Receptacle* convex, chaff oblong, keeled, dark purple and fringed at the summit. The florets of the ray in this plant are trilobed and have, at least when dry, their bright yellow, the base or under surface dark orange.

To the preceding species this has great affinity, but it is altogether less hairy, its leaves are fewer, smaller, and more finely denticulate, its branches summits fewer, more slender, and naked.

Grows in the western districts of Georgia.

Flowers August and September.

10. Spathulata. Mich.

R. gracilis, pubescens; caulibus unifloris, foliis obovato-spathulatis, integerrimis, involucro patulo, imbricato; radiis tridentatis.

Slender, pubescent; stem one-flowered; leaves obovate spathulate, entire; involucrum expanding, imbricate; florets of the ray three-toothed.

Sp. pl. 3. p. 2249. Mich. 2. p. 144. Pursh, 2. p. 574. Nutt. 2. p. 178.

A very small slender plant minutely pubescent. Mich.

Grows in the mountains of Carolina, Mich. Florida, Bartram.

Flowers July—September.

11. Radula. Pursh.

R. caule inferne hispido, superne glabro, nudiusculo; pedunculis longissimis unifloris; foliis ovatis, attenuatis, tuberculatis, hispidis; involucris imbricatis, squamis ovatis, acuminatis, ciliatis.

Stem hispid near the base, towards the summit glabrous, nearly naked; peduncles very long, one-flowered; leaves ovate, attenuate, tuberculate, hispid; involucrum imbricate, scales ovate, acuminate, ciliate.

Pursh, 2. p. 575. Nutt.

Described by Pursh from specimens in the Herbarium of Sir Joseph Banks.

Collected in Georgia by Bartram.

12. Fulgida.

R. caule hispido, ramis virgatim elongatis, unifloris; foliis oblongo-lanceolatis, denticulatis, hispidis, basi angustatis, subcordatis; involucri squamis radium subæquantibus; paleis lanceolatis.

Stem hispid, the branches long, virgate, 1-flowered; leaves oblong lanceolate, denticulate, hispid, narrowed and slightly cordate at base; scales of the involucrum as long as the ray; chaff lanceolate.

Sp. pl. 3. p. 2248. Pursh, 2. p. 574. Nutt. 2. p. 178.
R. Chrysomela, Mich. 2. p. 143.

Root perennial. *Stem* two to three feet high, bearing many branches, hispid. *Leaves* numerous, alternate, sessile, somewhat amplexicaule, triplinerved, hispid. Leaves of the *involucrum* lanceolate, hispid, somewhat foliaceous, the exterior the largest. *Florets* of the ray twelve to fourteen, lanceolate, two-cleft at the summit, externally hairy, scarcely longer than the involucrum; of the disk very numerous, dark purple. *Seed* four-angled. *Pappus* a slight margin. *Receptacle* convex, chaff lanceolate, glabrous, with purple summits, nearly as long as the florets of the disk.

Grows in mountain meadows from Pennsylvania to Carolina, Pursh. In the western districts of Georgia.

Flowers August—October.

13. HIRTA.

R. hirsutissima; caulibus virgatis, subramosis, unifloris; foliis spathulato-lanceolatis, triplinervibus, serratis, hirtis; involucri squamis triplici serie imbricatis, radio brevioribus; paleis obovatis, acutis.	Very hirsute; stem virgate, sparingly branched, 1-flowered; leaves spathulate, lanceolate, triplinerved, serrate, hirsute; scales of the involucrum imbricate in a triple series, shorter than the ray; chaff obovate, acute.

Sp. pl. 3. p. Walt. 214. Mich. 2. p. 143. Pursh, 2. p. 574. Nutt. 2. p. 178.

Root perennial. *Stem* two to three feet high, generally undivided, scabrous, hairy. *Leaves* alternate, sessile, semiamplexicaule, the lower spathulate-lanceolate, the upper lanceolate and ovate, all very hirsute. *Flowers* solitary, terminal. *Involucrum* many leaved, the leaves narrow lanceolate, hairy, the interior the smallest. *Florets* of the ray about fourteen, yellow, obliquely two-cleft at the summit, hairy, twice as long as the involucrum; of the disk very numerous, dark purple. *Seed* four-angled. *Pappus* obsolete. *Receptacle* conic, chaffy; chaff oblong, fringed and purple at the summit, hairy, as long as the florets of the disk.

Grows in dry sandy soils.

Flowers June—September.

14. ARISTATA. Pursh.

R? caule hispido, ramis elongatis, corymbosis, unifloris; foliis	Stem hispid, branches long, corymbose, 1-flowered; leaves lan-

lanceolato - oblongis, serratis, hispidis; disco subhemisphærico; paleis pappi subulatis, aristatis.	ceolate-oblong, serrate, hispid; disk nearly hemispherical; chaff of the pappus subulate, awned.

Pursh, 2. p. 574. Nutt. 2. p. 178.

Flowers small, deep yellow. Pursh.

Described by Pursh from specimens in the Herbarium of Sir Joseph Banks.

Collected in Carolina by Bartram. Can it really belong to this genus?

CENTAUREA. Gen. Pl. 1331.

Involucrum varium. *Radii* corollulæ infundibuliformes, irregulares. *Pappus* pilosus. *Receptaculum* setosum.	*Involucrum* various. *Florets* of the ray funnel-shaped, irregular. *Pappus* hairy. *Receptacle* bristly.

1. Benedicta.

C. involucri squamis duplicato-spinosis, lanatis, bracteatis; foliis semi - decurrentibus, denticulato spinosis.	Scales of the involucrum doubly armed with spines, woolly, with bracteal leaves at base; leaves somewhat decurrent, toothed and spiny.

Sp. pl. 3. p. 2315. Nutt. 2. p. 183.

Annual? *Stems* prostrate, six to twelve inches long, sparingly branched, very villous or woolly. *Leaves* sessile, pinnatifid, rugose, villous, segments acute, the lower sometimes runcinate. *Flowers* solitary, terminal, surrounded by the terminal leaves. *Involucrum* ovate, imbricate, the scales lanceolate, glabrous, terminating in a compound pectinate spine. *Florets* all tubular, those of the ray slender, three-cleft, those of the disk five-cleft, one incision very deep. *Styles* of the fertile florets longer than the corolla, two-cleft; of the sterile shorter, undivided. *Seed* of the ray abortive; of the disk oblong, slightly curved, finely striate, crowned apparently with a triple pappus, the exterior a ten-toothed margin, the intermediate composed of ten or twelve awns as long as the seed, rigid, serrate, the interior of an equal number of short hairy awns. *Bristles* of the receptacle longer than the seeds.

An exotic now naturalized; not uncommon in dry sandy pastures along the sea-coast; around Beaufort.

Flowers in April.

SYNGENESIA NECESSARIA.

CHAPTALIA. Ventenat.

Receptaculum nudum. *Pappus* capillaris. *Flosculi* radii in duplici serie difformes, foeminei, fertiles; disci, masculi, bilabiati. *Involucrum* subimbricatum.

Receptacle naked. *Pappus* capillary. *Florets* of the ray dissimilar, in a double series, female, fertile; of the disk masculine, two-lipped. *Involucrum* somewhat imbricate.

1. Integrifolia. Mich.

C. foliis oblongo-lanceolatis obovatisque, retrorse denticulatis, subtus argenteo-tomentosis; scapo nudo, unifloro, floribus nutantibus.

Leaves oblong lanceolate and obovate, retrorsely denticulate, tomentose and silvery underneath; scape naked, 1-flowered, flowers nodding.

Nutt. 2. p. 182.
Tussilago Integrifolia, Mich. 2. p. 121. Willd. Sp. pl. 3. p. 1964.
Perdicium Semiflosculare, Walt. p. 204.

Root somewhat tuberose, perennial. *Leaves* oblong, lanceolate, sometimes obovate, with fine retrorse denticulations, which, in the mature leaf are nearly obsolete, green and glabrous on the upper surface, covered with a white very dense cottony tomentum underneath. *Scapes* several from each root, six to ten inches long, tomentose, one-flowered; the flowers at first nodding, becoming erect as the seed matures. *Calyx* imbricate. *Scales* linear-lanceolate, appressed, clothed with a ferruginous tomentum, except the midrib which is glabrous. Exterior *florets* of the ray 16 to 20, glabrous, white on the interior surface, purple on the outer; just within these is a second series of female florets with long styles and only the rudiment of the corolla. *Florets* of the disk sterile, bilabiate, one lip broad, reflexed, slightly three-cleft, the other lip deeply two-cleft, with the segments revolute. *Seed* of the fertile florets oblong, striate, glabrous.

Grows in damp pine barrens.

Flowers March—April.

SILPHIUM. Gen. Pl. 1334.

Involucrum foliaceum, squarrosum. *Semina* compressa, obcordata, emarginata, bidentata. *Receptaculum* paleaceum.*

Involucrum leafy, squarrose. *Seeds* compressed, obcordate, emarginate, two-toothed. *Receptacle* chaffy.

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* Gummiferum. E.

S. caule erecto, hispido, gummifero; foliis sinuato pinnatifidis, subtus subhispidis; floribus majusculis, axillaribus subsessilibus; involucri squamis ovatis, acuminatis, margine hispidis. E.

Stem erect, hispid, bearing gum; leaves sinuate, pinnatifid, underneath somewhat hispid; flowers large, axillary, nearly sessile; scales of the involucrum ovate, acuminate, hispid along the margin.

Root perennial? *Stem* two to three feet high, robust, very hispid and rough, exuding whenever wounded a terebinthine gum, so abundant that it sometimes I am told almost encrusts the plant. *Leaves* sinuate, pinnatifid, hispid on the under surface, particularly along the veins, the segments very acute, and generally more remote and incised than in the other pinnatifid species. *Flowers* larger than those of any other species in this genus that I have seen, axillary, on short squarrose peduncles. *Scales* of the involucrum

1. LACINIATUM.

S. caule superne hispido; foliis radicalibus caulinisque pinnatifidis, laciniis dentato sinuatis; floribus paniculatis; involucri foliolis subcordatis acuminatis.	Stem hispid towards the summit; leaves of the root and stem pinnatifid, the segments toothed and sinuate; flowers in panicles; scales of the involucrum somewhat cordate, acuminate.

Sp. pl. 3. p. 2330. Mich. 2. p. 145. Pursh, 2. p. 577. Nutt. 2. p. 183.

Root perennial. *Stem* eight to twelve feet high, simple, smooth near the base, towards the summit rough and hispid. *Leaves* alternate, petiolate, about two feet long and one wide, amplexicaule at base, pinnatifid, segments distant, toothed and sinuate, scabrous. *Scales* of the involucrum ten, terminating in a subulate point. *Florets* of the ray about thirty, as long as the involucrum, yellow as in all the species of this genus. *Florets* of the disk numerous. *Seeds* emarginate, with two small awns.

This plant belongs to the Mississippi and a few of its tributary streams. It has been reported to me as growing in the western districts of Georgia and among the Alleghany mountains. No plant, however, that I have seen belongs properly to the species as described by Linnæus, unless the following should be considered as one of its varieties.

Flowers August to October. Pursh. More probably from June to August.

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ovate acuminate, the outer ones fringed or hispid along the margins. *Florets* of the ray sixteen to twenty, perhaps twenty-four; of the disk numerous. *Seed* compressed, dilated, slightly winged, crowned with two subulate, very acute teeth.

Grows in the prairies of the Alabama.

Flowers from June to August.

I have introduced this remarkable species in a note, because I know not whether it has ever been found within the limits assigned to this work. The prairies of the Alabama in which this plant is found, commence within a few miles of the western frontier of Georgia, and this appears to be almost exclusively a prairie plant.

2. PINNATIFIDUM. E.

S. caule glabriusculo; foliis sinuato-pinnatifidis, subscabris, subtus parce pilosis; involucri squamis ovalibus, exterioribus rotundatis. E.	Stem somewhat glabrous; leaves sinuate, pinnatifid, somewhat scabrous, a little hairy underneath; scales of the involucrum oval, the exterior nearly round.

Stem four to six feet high, smooth and glabrous even among the branches. *Leaves* large, sinuate, pinnatifid, the summits of the segments generally acute, the upper surface nearly glabrous, the under surface slightly scabrous, sprinkled with a few short hispid hairs. *Flowers* large, not numerous, scattered in a loosely branching panicle. *Scales* of the involucrum imbricate, glabrous, the exterior circular, the interior oval, obtuse. *Florets* of the ray about as long as the involucrum. *Seeds* winged, obovate, emarginate.

Grows in the western districts of Georgia, and particularly in and around the prairies of the Alabama.

Flowers July to August.

3. COMPOSITUM. Mich.

S. caule lævi; foliis caulinis sinuato-pinnatifidis, radicalibus ternatis, sinuato-multifidis; floribus parvis, paniculatis.	Stem smooth; leaves of the stem sinuate, pinnatifid, of the root ternate, sinuate, many cleft; flowers small, paniculate.

Sp. pl. 3. p. 2331. Mich. 2. p. 145. Pursh, 2. p. 577. Nutt. 2. p. 182.

S. Laciniatum, Walt. p. 217.

Root perennial. *Stem* two to four feet high, simple, nearly glabrous. *Leaves* much smaller than those of the preceding species, irregularly sinuate and lobed, sometimes pinnatifid, glabrous on the upper surface, sprinkled with hairs on the under surface and along the margin. *Flowers* small, in a terminal, somewhat corymbiform panicle. *Scales* of the involucrum ovate, rather obtuse, slightly fringed. *Florets* of the ray scarcely exceeding twelve, nearly an inch long.

I suspect that some genuine species among the sinuate-leaved Silphiums are yet undefined.

Grows in dry pine barrens.

Flowers May—August.

4. TERBINTHINACEUM. Lin.

S. caule lævi; foliis radicalibus amplis, rotundato vel reniformi-cordatis, sublobatis, dentatisque, caulinis alternis, ovatis, serratis, scabris; panicula composita, multiflora.	Stem smooth; leaves of the root large round or reniform, cordate, slightly lobed and toothed, of the stem alternate, ovate, serrate, scabrous; panicle compound, many flowered.

Sp. pl. 3. p. 2331. Mich. 2. p. 145. Pursh, 2. p. 577. Nutt. 2. p. 182.

Stem erect, four to five feet high, glabrous. Root *leaves* deeply cordate, oblong or round, toothed, when luxuriant slightly lobed along the margin. *Flowers* more numerous than usual in this genus, in large scattered corymbose panicles. *Scales* of the involucrum nearly ovate, the exterior rather acute, the interior generally obtuse. *Florets* of the ray ten to twelve, about an inch long.

This species appears subject to some variations. In specimens sent me by Dr. Schweinitz from Salem, North-Carolina, the root leaves were nearly reniform, simply toothed and very scabrous underneath. In specimens collected in the western districts of Georgia and Alabama, where it appears to be more luxuriant, the leaves were lobed and angled, and nearly glabrous underneath. In the flowers I can perceive no difference.

Grows along the mountains.

Flowers July—August.

5. PERFOLIATUM. Lin.

S. caule tetragono, lævi; foliis oppositis, connatis, ovatis, serratis.	Stem four-angled, smooth; leaves opposite, connate, ovate, serrate.

Sp. pl. 3. p. 2331. Pursh, 2. p. 577. Nutt. 2. p. 183.

Stem about six feet high, four-angled, smooth. *Leaves* opposite, ovate or deltoid, serrate, opposite and perfoliate with decurrent petioles, the upper sessile, very broad, perfoliate. *Peduncle* terminal and from the axil of the highest leaves. *Involucrum* squarrose, scales obtuse. *Florets* of the ray twenty-four. Lin.

Grows in the mountains, Pennsylvania to Carolina. Pursh.

Flowers July to October.

6. CONNATUM. Lin.

S. caule tereti, hispido; foliis oppositis, connatis, remote serratis, scabris.	Stem terete, hispid; leaves opposite, connate, remotely serrate, scabrous.

Sp. pl. 3. p. 2332. Mich. 2. p. 146. Pursh, 2. p. 578. Nutt. 2. p. 183.

Stem about six feet high, erect, simple, terete, (obscurely angled near the base,) scabrous with deflected hairs. *Leaves* opposite, connate perfoliate, ovate oblong, sessile, (not united by perfoliate petioles as the S. Perfoliatum) scabrous, rather acute, serrate. *Panicle* terminal, dichotomous. *Involucrum* squarrose, the scale ovate, obtuse, smooth, reflected at the summit. *Florets* of the ray twelve. Lin.

I have used the description given by Linnæus of this and the preceding species, because I had no specimens on which I could depend, or rather which agreed with the Linnæan plant.

Grows on the high mountains of Carolina, Pursh.

Flowers August—September.

7. INTEGRIFOLIUM. Mich.

S. caule tetragono, aspero; foliis oppositis, sessilibus, oblongis, integerrimis, scabris; floribus paucis, breviter pedunculatis.

Stem four-angled, rough; leaves opposite, sessile, oblong, entire, scabrous; flowers few, on short peduncles.

Mich. 2. p. 146. Spl. pl. 3. p. 2333. Pursh, 2. p. 578. Nutt. 2. p. 183.

Stem square, rough. *Leaves* all uniform, opposite, sessile, erect, oblong, oval, very scabrous on the upper surface. *Flowers* few, on short peduncles. Mich. From the mountains of Carolina Dr. Macbride brought specimens nearly allied to this species, differing in a few particulars. *Stem* nearly terete, glabrous, the peduncles slightly angled. *Leaves* oblong, ovate or oval, acute, entire, scabrous on both surfaces, on short somewhat connate petioles. *Flowers* not numerous. *Scales* of the involucrum oblong, ovate, glabrous, slightly fringed, all nearly of one length. *Florets* of the ray fourteen, rather more than an inch long, of a very brilliant yellow.

The original S. Integrifolium of Mich. was collected in the state of Illinois and may be distinct.

Flowers August—September.

8. LÆVIGATUM. Pursh.

S. caule simplici, tetragono, sulcato, glabro; foliis oppositis sessilibus, ovatis, acuminatis, tenuissime serratis, basi subcordatis, utrinque glabris; involucri squamis ovatis, ciliatis.

Stem simple, 4-angled, furrowed, glabrous; leaves opposite, sessile, ovate, acuminate, very slightly serrate, somewhat cordate at base, glabrous; scales of the involucrum ovate, ciliate.

Pursh, 2. p. 578. Nutt. 2. p. 183.

Stem about two feet high. *Flowers* in a compact corymb. Pursh.

The plant I am about to describe agrees in so many respects with this species, that it probably belongs to it. For the differences it will perhaps be easy to account.

Stem about two feet high, slightly angled, glabrous. Root *leaves* oblong lanceolate, on petioles one to two inches long. Lower stem *leaves* oval lanceolate, on short petioles which are connate at base; the upper closely sessile, ovate, the highest almost cordate, all glabrous, slightly acuminate, finely fringed and all but the uppermost serrate. *Flowers* rather small, in a somewhat compact corymb. *Scales* of the involucrum ovate, ciliate, the exterior much smaller than the interior, rather acute. The leaves of this species are intensely bitter.

Pursh's description was made from plants collected by Mr. Enslen in Georgia between Savannah and Louisville. My specimens were collected in the western districts of Georgia.

Flowers August—September.

9. SCABERRIMUM. E.

S. caule subangulato, angulis superne scabris; foliis ovatis, subacuminatis, serratis, rigidis, utrinque scaberrimis, breviter petiolatis; floribus subcorymbosis; involucri squamis ovatis, ciliatis. E.	Stem somewhat angled, the angle rough towards the summit; leaves ovate, slightly acuminate, serrate, rigid, scabrous on both surfaces, on short petioles; flowers corymbose; scales of the involucrum ovate, ciliate.

Stem three to four feet high, very robust, angled when young, becoming terete and glabrous when old. *Leaves* on short petioles which as usual in this genus, are somewhat connatè, three to four inches long, rather more than two wide, acutely serrate, resembling those of a rough leaved Helianthus. *Flowers* in a somewhat compact corymb. The exterior scales of the involucrum comparatively small, rather acute, scarcely scabrous. *Florets* of the ray twelve to fourteen, about an inch long. *Seed* nearly circular, winged, deeply emarginate.

Grows in the western districts of Georgia.

Flowers August—September.

10. TRIFOLIATUM. Lin.

S. caule 6-angulato, lævi; foliis terno verticillatis, ovato-lanceo-	Stem six-angled, smooth; leaves verticillate by threes, ovate-

latis, inæqualiter dentato serratis, supra scabris, superioribus sessilibus; panicula trichotoma.

lanceolate, unequally toothed and serrate, scabrous on the upper surface, the upper ones sessile; panicle trichotomous.

Sp. pl. 2. p. 2333. Pursh, 2. p. 578. Nutt. 2. p. 183.
S. Ternifolium, Mich. 2. p. 146.

Stem four to six feet high, slightly angled, glabrous, generally purple. The upper *leaves* generally sessile, the middle and lower ternate, on short petioles, all ovate-lanceolate, serrulate, tapering to an acute point, slightly scabrous and sprinkled with hair on the upper surface, glabrous and reticulately veined on the under. *Flowers* in a terminal corymb. *Scales* of the involucrum ovate, rather acute, ciliate, loosely appressed. *Florets* of the ray about fourteen, about an inch and a half long, bright yellow.

Grows in the mountainous districts of Carolina and Georgia.

Flowers August—October.

11. Ternatum.

S. caule tereti, lævi; foliis terno-verticillatis, petiolatis, lanceolatis, subdenticulatis, scabriusculis, basi ciliatis, superioribus sparsis, sessilibus; panicula dichotoma; calycibus ciliatis.

Stem terete, smooth; leaves verticillate by threes, petiolate, lanceolate, slightly toothed, ciliate at base, somewhat scabrous, the upper ones scattered, sessile; panicle dichotomous; the calyx fringed.

Sp. pl. 3. p. 2333. Pursh, 2. p. 578. Nutt. 2. p. 183.

Stem four to six feet high, slightly angled, glabrous. *Leaves* nearly sessile, all narrow lanceolate, very acute, denticulately or sometimes acutely serrate, a little hairy and scabrous on the upper surface, the under reticulately veined and hairy along the midrib and larger veins. *Flowers* in a loose terminal corymb. *Scales* of the involucrum ovate, rather acute, ciliate, loosely appressed. *Florets* of the ray twelve to fourteen, about an inch and a half long.

I am not satisfied that I have accurately understood these two last species, nor as far as my specimens are concerned that they are sufficiently distinct;

but the leaves of the former are ovate, while in the latter they are narrow lanceolate, more pubescent underneath, and the corymb more diffuse.

Grows in the mountainous districts of Carolina and Georgia.

Flowers August—October.

12. ATROPURPUREUM. Retz.

S. caule tereti, lævi; foliis subquaterno-verticillatis, lanceolatis, scabris, subintegerrimis, subsessilibus, basi ciliatis, superioribus sparsis; panicula dichotoma.	Stem terete, smooth; leaves verticillate by fours, lanceolate, scabrous, nearly entire and sessile, ciliate at base, the upper ones scattered; panicle dichotomous.

Sp. pl. 3. p. 2334. Pursh, 2. p. 579.

Stem about four feet high, dark purple, somewhat densely clothed with leaves; the lowest leaves alternate, the next ternate, then quaternate or rather in approximating pairs; the uppermost scattered, all lanceolate, denticulate, scabrous, with the midrib dark purple, on short fringed petioles. *Florets* of the ray very narrow.

This species I have not seen; it is considered by Mr. Nuttall as a variety of the preceding.

Grows in Carolina and Georgia, Pursh.

Flowers August—September.

13. DENTATUM. E.

S. caule erectum, subglabro; foliis inferioribus oppositis, superioribus alternis, omnibus lanceolatis, sinuato-dentatis, pilosis, scabris; floribus corymbosis; involucri squamis lato-ovatis, ciliatis.	Stem erect, somewhat glabrous; lower leaves opposite, the upper alternate, all lanceolate, sinuate, toothed, hairy, scabrous; flowers in corymbs; scales of the involucrum broad, ovate, ciliate.

Stem two to three feet high, slightly furrowed, generally glabrous. Upper *leaves* sessile, the lower on short petioles, irregularly and coarsely toothed, sometimes slightly sinuate and veined along the margin, hairy and scabrous on both surfaces. *Flowers* in a small terminal corymb. *Scales* of the involucrum ovate, broad, handsomely fringed. *Florets* of the ray about ten, nearly elliptic, scarcely an inch long.

This is nearly allied to S. Astericus, but it seems sufficiently distinct by its glabrous stem and its corymbose and smaller flowers; its leaves too appear to be more rigid and perhaps less scabrous on the under surface.

Grows in the western districts of Georgia.

Flowers August—September.

14. ASTERISCUS. Lin.

S. caule simplici, tereti, hispido; foliis oppositis alternisve, oblongis, acutis, serratis, scabris; floribus paucis, plerumque solitariis.

Stem simple, terete, hispid; leaves opposite or alternate, oblong, acute, serrate, scabrous; flowers few, generally solitary.

Sp. pl. 3. p. 2332. Mich. 2. p. 146. Pursh, 2. p. 578.

Stem two to three feet high, terete, very hispid. *Leaves* all lanceolate, acute, serrate, sometimes coarsely dentate, scabrous, and somewhat hispid on both surfaces; the lower on short petioles, generally opposite; the upper alternate, sessile, sometimes all alternate. *Flowers* never numerous, frequently solitary, terminal. *Scales* of the involucrum ovate ciliate, the exterior acute. *Florets* of the ray eight to ten.

Grows in dry sandy soils.

Flowers June—August.

15. PUMILUM. Mich.

S. caule petiolisque tomentosis; ramis unifloris; foliis alternis, cordato-ovatis, serratis, petiolatis, subtus albo tomentosis; seminibus muticis.

Stem and petioles tomentose; branches one-flowered; leaves alternate, cordate, ovate, serrate, petiolate, white and tomentose underneath; seeds unawned.

Mich. 2. p. 146. Sp. pl. 3. p. 2332. Pursh, 2. p. 578. Nutt. 2. p. 183.
S. Tomentosum, Pursh, 2. p. 579.

Stem two to three feet high, erect and procumbent, terete, covered like the underside of the leaves with a white tomentum. *Leaves* oblong, acute, irregularly toothed, conspicuously veined, the upper surface green, pubescent, the uppermost simply ovate. *Flowers* few, in an irregular corymb. *Scales* of the involucrum eight to ten, ovate, tomentose, imbricate. *Florets* of the ray eight to ten, rarely exceeding an inch in length, pubescent on the outer surface; of the disk numerous, dark purple. *Seed* obovate, crowned when young with two deciduous setaceous awns.

Grows in the high dry pine barrens in the middle country.
Flowers July—August.

16. Elatum. Pursh.

S. foliis alternis, petiolatis, cordatis, sinuatis; involucri squamis obtusis.	Leaves alternate, petiolate, cordate, sinuate; scales of the involucrum obtuse.

Pursh, 2. p. 579.

Grows in Carolina. Pursh.

17. Reticulatum. Pursh.

S. foliis alternis, ovato-lanceolatis, cordatis, serratis, obtusiusculis, villosiusculis.	Leaves alternate, ovate-lanceolate, cordate, serrate, rather obtuse, slightly villous.

Pursh, 2. p. 579.

These two species with which I am unacquainted, and which are very imperfectly distinguished, were described by Pursh from specimens in the Herbarium of Sir Joseph Banks. They were probably collected by Bartram (to whom the Botanists of the last century were indebted for a knowledge of many of our plants) on the confines of Georgia, Florida, and Alabama, the country of the Helianthus, the Silphium, the Rudbeckia, and perhaps I may add of the Solidago.

POLYMNIA. Gen. Pl. 1335.

Involucrum duplex; exterius 4—5 phyllum; interius 10-phyllum, foliolis concavis. *Receptaculum* paleaceum. *Pappus* nullus.

Involucrum double, the exterior 4—5 leaved, the interior 10-leaved, leaves concave. *Receptacle* chaffy. *Pappus* 0.

1. Canadensis.

P. viscido-villosa; foliis denticulatis acuminatis, inferioribus pinnatifidis, superioribus trilobis, integrisve.

Viscid, villous; leaves denticulate, acuminate, the lower pinnatifid, the upper three lobed or entire.

Sp. pl. 3. p. 2335. Mich. 2. p. 147. Pursh, 2. p. 579. Nutt. 2. p. 183.

Stem two to four feet high, villous, somewhat scabrous. *Leaves* somewhat ovate, thin, slightly scabrous, finely serrate, the upper entire in the outline, the lower becoming deeply lobed and pinnatifid. *Flowers* in a loose terminal panicle. *Peduncles* and scales of the involucrum very viscid and villous. *Florets* of the ray ten, small, yellow.

Grows in the mountains of Carolina, Dr. Macbride.

Flowers July—September.

2. Uvedalia.

P. foliis oppositis, trilobis, acutis, in petiolum decurrentibus, lobis anguloso-sinuatis; radiis elongatis.

Leaves opposite, 3-lobed, acute, attenuated to a petiole, lobes angled and sinuate; florets of the ray long.

Sp. pl. 3. p. 2335. Walt. p. 216. Mich. 2. p. 147. Pursh, 2. p. 579. Nutt. 2. p. 183.

Root perennial. *Stem* three to five feet high, terete, slightly sulcate, villous, scabrous, branches generally ternate. *Leaves* opposite, sometimes ternate, hairy, scabrous, ovate, three to five lobed, tapering at base into a petiole with sinuate wings two to three inches long. *Flowers* in a loose terminal panicle, the branches opposite or ternate. Exterior scales of the involucrum much larger, the interior ovate, ciliate, somewhat scabrous, the interior lanceolate, acuminate, villous, embracing the germs, and forming in fact only the exterior series of the scales of the receptacle. *Florets* of the ray ten, lanceolate, three-toothed, yellow, about an inch long; of the disk very numerous. *Seeds* nearly spherical, somewhat compressed, glabrous. *Receptacle* flat, chaffy.

Grows in dry soils—in old pastures common.

Flowers June—August.

CHRYSOGONUM. Gen. Pl. 1337.

Involucrum 5-phyllum. *Receptaculum* paleaceum. *Pappus* 1-phyllus, 3-dentatus. *Semina* caliculo 4-phyllo involuta.	*Involucrum* 5-leaved. *Receptacle* chaffy. *Pappus* 1-leaved, 3-toothed. *Seed* enfolded in a 4-leaved calyx.

1. Virginianum.

Sp. pl. 3. 2337. Walt. p. 217. Mich. 2. p. 148. Pursh, 2. p. 579. Nutt. 2. p. 184.

Root perennial, stoloniferous. *Stem* six to twelve inches long, decumbent, very villous. *Leaves* opposite, oblong, lanceolate or oval, crenately toothed, triplinerved, tapering to a long petiole, villous. *Flowers* solitary, generally terminal. *Scales* of the involucrum five, oblong, somewhat elliptic, villous. *Florets* of the ray five, five to eight lines long, wide, yellow; of the disk numerous. *Seed* four-angled, compressed, a little hairy, crowned at the summit with a short three-toothed pappus, open or divided on the interior side, and enveloped by a four-leaved calyx, of which the exterior leaf is large and infolds the seed and the other three.

Grows in rich dry soils, creeping on the surface.

Flowers April—June.

GYMNOSTYLES. Jussieu.

Calyx polyphyllus ordine simplici. *Flosculi* foeminei apetali.	*Calyx* many leaved in a simple series. Female *florets* apetalous.

Semina compressa, apice subdentata, stylo persistente aristata.	*Seeds* compressed, slightly toothed on the summit, awned with the persistent style.

1. Stolonifera?

G. herbacea, procumbens, repens, glabra; foliis pinnatifidis, floribus ad radicem sessilibus.	Herbaceous, procumbent, creeping, glabrous; leaves pinnatifid; flowers sessile at the root.

Nutt. 2. p. 134.
Hippia Stolonifera? Sp. pl. 3. p. 2383. Persoon, 2. p. 497.

Root perhaps perennial, shooting out short runners (stolones) on all sides just under the surface of the ground, which produce new plants; each plant bearing five to six radical leaves and one sessile capitulum in the centre of the leaves. *Leaves* small, pinnatifid, with the segments linear and sometimes toothed, somewhat succulent and sprinkled with soft cottony hairs, the petiole-like base of the leaves four to eight lines long. *Involucrum* twelve to sixteen leaved, in a simple series; leaflets oblong, rather obtuse, hairy. Sterile *florets* in the centre of the capitulum, *corolla* funnel shaped, very slender, *anthers* closely united. Female *florets* in the circumference, corolla and stamens 0, germ dilated and woolly at the summit, margined. *Style* long, incurved, slightly two-cleft. *Receptacle* naked. *Seed* inversely wedge-shaped, crowned with the persistent style, winged, margin corrugate.

R. Brown is disposed to consider Gymnostyles as only a section of the genus Soliva. The character of that genus, however, as given in Persoon, must be reformed before it can include this plant.

Grows in damp sandy soils. On Harleston's Green, Charleston. Mr. Middleton's, Ashley River. Mr. Pinckney's, Ashepoo.

Flowers February—May.

PARTHENIUM. Gen. Pl. 1428.

Involucrum 5-phyllum. Radii *corollulæ* minimæ. *Semina* obovata. *Pappus* nullus. *Receptaculum* paleaceum, planum.	*Involucrum* 5-leaved. *Florets* of the ray very small. *Seed* obovate. *Pappus* 0. *Receptacle* chaffy, flat.

1. INTEGRIFOLIUM. Lin.

P. foliis oblongis, inæqualiter dentatis, asperis, superioribus amplexicaulibus.

Leaves oblong, unequally toothed, rough, the upper ones amplexicaule.

Sp. pl. 3. p. 2385. Mich. 2. p. 147. Pursh, 2. p. 580. Nutt. 2. p. 183.

Root perennial. *Stem* one to two feet high, striate, slightly scabrous. *Leaves* alternate, ovate-lanceolate, sessile, the upper amplexicaule, toothed, very scabrous on both surfaces. *Flowers* numerous in a terminal corymb. *Scales* of the involucrum five-leaved, villous. *Florets* of the ray five, very small; of the disk numerous, tomentose. *Seed* obovate. *Receptacle* chaffy. (The five external scales of the receptacle very broad, shielding the same number of minute radial florets, each connected at the base with two masculine sheathed florets, Nutt.)

Grows in dry soils, in the middle and upper districts of Carolina and Georgia.

Flowers June—September.

IVA. GEN. PL. 1429.

Involucrum 5 (5—10?) phyllum. Radii *corollulæ* 5, nudæ. *Antheræ* approximatæ, non coalitæ. *Semina* obovata. *Pappus* nullus. *Receptaculum* setosum.

Involucrum 5 (5—10?) leaved. *Florets* of the ray naked. *Anthers* approximate not united. *Seed* obovate. *Pappus* 0. *Receptacle* bristly.

1. FRUTESCENS. Lin.

I. fruticosa; foliis oppositis, lanceolatis, profunde serratis, sub scabris; capitulis depresso globosis.

Shrubby; leaves opposite, lanceolate, deeply serrate, slightly scabrous; heads globular depressed.

Sp. pl. 3. p. 2387. Walt. p. 232. Mich. 2. p. 184. Pursh, 2. p. 580. Nutt. 2. p. 185.

A shrub three to eight feet high, with very numerous opposite branches and leaves. *Stem* slightly furrowed, when young somewhat scabrous and pubescent. *Leaves* three-nerved, slightly scabrous with a somewhat dotted and uneven surface, of a greyish hue, attenuated at base into a short petiole. *Flowers* axillary, frequently in pairs, deflected, in simple axillary racemes forming together a large terminal panicle. *Involucrum* five-leaved, the leaves nearly round, viscidly pubescent. Fertile *florets* five in the circumference. *Corolla* very small, tubular, generally two? cleft. *Style* two-cleft, longer than the corolla. *Stigmas* obtuse. Male *florets* in the centre of the disk six to seven. *Corolla* longer than the involucrum, five-cleft, tinged with purple, stamens five, growing from the base of the corolla. *Germ* and *Style* very small, abortive. *Seed* abortive, naked. *Bristles* of the receptacle as many as the florets, as long as the corolla.

Grows along the seacoast in the vicinity of salt water—very common.

Flowers July—September.

2. Imbricata. Walt.

I. perennis, glabra; foliis lineari-lanceolatis, cuneatis, carnosis, superioribus alternis integerrimisque; involucris imbricatis; receptaculi paleis spathulatis. E.

Perennial, glabrous; leaves linear-lanceolate, cuneate, succulent, the upper alternate and very entire; involucrum imbricate; chaff of the receptacle spathulate.

Walt. p. 232. Sp. pl. 3. p. 2387. Mich. 2. p. 184. Pursh, 2. p. 580. Nutt. 2. p. 185.

Root perennial. *Stem* annual, terete, slightly angled towards the summit, when young green, afterwards dark purple. *Leaves* sessile, succulent, three-nerved, generally alternate, the lower sometimes opposite, and sometimes coarsely toothed. *Flowers* axillary, forming simple racemes towards the summit of the branches, pendulous. *Scales* of the involucrum six to nine, imbricate, nearly round, carnose, veined, the margin membranaceous and crenately lacerate. Fertile *florets* two, the corolla very minute, five-parted (sometimes appearing multifid) at the summit. *Style* twice as long as the corolla; stigmas simple. Male *florets* numerous. *Corolla* as long as the involucrum, white. *Anthers* approximate not united. *Seeds* slightly compressed, dark purple. Chaff of the receptacle as long as the involucrum, narrow spathulate, crenulate at the summit.

Grows among the drifting sand hills along the margin of the ocean.

Flowers July—October.

AMBROSIA. GEN. PL.

Monoica. *Floris masculi*—*involucrum* 1 phyllum, hæmisphericum, multiflorum; *anteræ* approximatæ non coalitæ; *receptaculum* nudum. *Flor.* foem.—*involucrum* 1 phyllum, sub integer aut 5 dentatum; 1-florum; *corolla* nulla; *styli* 2; *nux* e calyce indurato, 1-sperma.	Monoecious. Male *florets*—*involucrum* 1-leaved, hemisphærical, many flowered; *anthers* approximate not united; *receptacle* naked. Female *florets*—*involucrum* 1-leaved, entire or 5-toothed, 1-flowered; *corolla* 0; *styles* 2; *nut* formed from the indurated calyx, 1-seeded.

1. TRIFIDA. Lin.

A. hirsuta, aspera; foliis 3-lobis, serratis, lobis ovali-lanceolatis, acuminatis; fructu infra apicem 6-spinoso.	Hirsute, rough; leaves 3-lobed, serrate, the lobes oval-lanceolate, acuminate; fruit 6-spined below the summit.

Sp. pl. 4. p. 375. Mich. 2. p. 183. Pursh, 2. p. 581. Nutt. 2. p. 186.

Plant annual, four to eight feet high. *Stem* hairy, and scabrous. *Leaves* generally opposite, rather large, deeply three-cleft, hairy and scabrous, the segments lanceolate, acuminate, serrate. The *flowers* as in all of this genus may be considered as in large terminal panicles composed of axillary and terminal spikes. The heads of male florets numerous, solitary, somewhat crowded along the summit of the spike; the fertile florets in small clusters of two to five at the base, surrounded by two or three bracteal leaves. *Involucrum* of the male florets one-leaved, five to eight lobed, hairy. *Corolla* small, tubular, white. *Stamens* distinct. *Involucrum* of the fertile florets five-lobed, persistent, germ somewhat obovate, abruptly acuminate. *Styles* two, distinct. Nut one-celled, one-seeded, formed of the indurated involucrum, crowned with six short spines or teeth surrounding the acuminated summit.

Grows in rich soils, in the upper districts of Carolina and Georgia.
Flowers August—September.

2. Elatior. Lin.

A. foliis bipinnatifidis, glabriusculis; petiolis longe ciliatis; racemis terminalibus; caule virgato.	Leaves bipinnatifid, nearly glabrous; petiole conspicuously fringed; racemes terminal; stem virgate.

Sp. pl. 4. p. 376. Pursh, 2. p. 581. Nutt. 2. p. 186.

Stem four to seven feet high, when young pubescent. Upper *leaves* alternate, the lower sometimes opposite, all bipinnatifid with segments acute, somewhat hairy. *Flowers* in paniculate racemes. Heads of the male *florets* globular; involucrum sprinkled with hairs, slightly and irregularly lobed; corolla white. Fertile *florets* in small distinct clusters; styles two. Nut crowned with six short spines.

Grows in pastures and rich soils, in the upper districts of Carolina and Georgia.

Flowers July—September.

3. Artemisifolia. Lin.

A. foliis bipinnatifidis, subtus canescentibus, summis pinnatifidis; racemis ternis, terminalibus; ramis fastigiatis.	Leaves bipinnatifid, hoary underneath, the uppermost pinnatifid; racemes by threes, terminal; branches fastigiate.

Sp. pl. 4. p. 376. Pursh, 2. p. 581. Nutt. 2. p.
A. Absynthifolia, Mich. 2. p. 183.

Stem four to six feet high, branching and with the leaves a little pubescent. *Leaves* sometimes opposite at base, alternate towards the summit, generally bipinnatifid, the segments larger and more distant than in the preceding species, nearly glabrous on the upper surface, pubescent and hoary underneath; racemes scattered, loosely paniculate. Heads of male *florets* small, globular; female *florets* remote, axillary, sessile. *Spines* of the fruit very short, acute.

Grows in the mountains of Carolina, Mich.

Flowers August—September.

4. PANICULATA. Mich.

A. caule ramosissimo, superne paniculato, petiolisque villosis; foliis utrinque viridibus bipinnatifidis, laciniis lanceolatis; fructibus aggregatis, pusillis, globoso-obovatis, subinermibus.

Stem branching, paniculate at the summit, and with the petioles villous; leaves green on each surface, bipinnatifid, the segments lanceolate; fruit somewhat clustered, small, obovate, slightly armed.

Mich. 2. p. 183. Sp. pl. 4. p. 376. Pursh, 2. p. 581. Nutt. 2. p. 186. Iva Monophylla, Walt. p. 232.

Root annual. *Stem* two to four feet high, branching, pubescent and hairy, somewhat scabrous. *Leaves* alternate, the lower compoundly, the upper simply pinnatifid, the segments all acute, somewhat hairy and scabrous. *Flowers* in simple racemes, terminal and axillary, the lower fertile, the upper sterile. *Calyx* of the sterile florets turbinate, ten-flowered, irregularly ten-toothed. *Corolla* globose. *Stamens* five, united on a pedicel. *Fruit* slightly muricate near the summit.

Grows in cultivated ground—very common.

Flowers July—September.

XANTHIUM. Gen. Pl. 1426.

Monoicum. *Floris* masculi—*receptaculum* paleaceum; *antheræ* approximatæ non coalitæ; *involucrum* polyphyllum, imbricatum, multiflorum. *Floris* foem. *involucrum* 2-phyllum, 2-florum; *corolla* 0; drupa sicca, muricata, 2-fida. Nux 2-locularis.

Monoecious. Male *florets*—*receptacle* chaffy; *anthers* approximate, not united; *involucrum* many leaved, imbricate, many flowered. Female *florets*—*involucrum* 2-leaved, 2-flowered; *corolla* 0; drupe dry, muricate, 2-cleft; nut 2-celled.

1. Strumarium.

X. caule inermi, ramoso; foliis cordatis, lobatis, serratis, scabris, trinervibus; fructibus ellipticis, pubescentibus, setis rigidis uncinatis.	Stem unarmed, branching; leaves cordate, lobed, serrate, scabrous, three-nerved; fruit elliptic, pubescent, armed with rigid hooked bristles.

Sp. pl. 4. p. 373. Mich. 2. p. 182. Pursh, 2. p. 581. Nutt. 2. p. 186. X. Americanum, Walt. p. 231.

Plant annual. *Stem* three to six feet high, branching, angled, pubescent, and very scabrous. *Leaves* alternate, generally three-lobed, the lobes coarsely toothed, pubescent and very scabrous on both surfaces, six to eight inches long, nearly of the same width, on petioles three to four inches long. Heads of male *florets* arranged on axillary racemes. Leaves of the involucrum subulate. *Stamens* united at base. *Anthers* distinct. Chaff of the receptacle subulate. Fertile *florets* one or two at the base of each raceme. *Involucrum* ten-leaved, two-flowered, the leaflets subulate, equal. Proper *calyx* an arillus? oblong, armed with hooked prickles of which the two at the summit become much larger than the others. *Seed* oblong, inclosed in the persistent calyx.

The germs in this plant which when young appear to be distinct, unite as they mature and form a two-celled bipartible? fruit.

Grows in fields and about buildings—very common but not indigenous.

Flowers July—October. Sheep-bur.

2. Spinosum.

X. spinis ternatis; foliis trilobis.	Spines ternate; leaves three-lobed.

Sp. pl. 4. p. 374. Nutt. 2. p. 186.

Annual. *Stem* three to five feet high, terete, pubescent. *Leaves* alternate, ovate-lanceolate, acute, when young entire, when old, three-lobed, pale green, pubescent on the upper surface, almost tomentose underneath. *Petioles* two to three lines long, a spine three-forked, rigid, about an inch long, grows on one side of each petiole. Heads of male *florets* solitary, axillary at the base of each spine. *Involucrum* many leaved; leaves ovate. *Filaments* longer than the corolla, united at base. *Anthers* distinct. Fertile *florets* solitary, axillary, opposite the spine. Proper *calyx* armed with short hooked prickles. *Styles* two. *Fruit* two-celled.

An exotic now very common along the seacoast of Carolina and Georgia.

Flowers July—October.

SYNGENESIA SEGREGATA.

ELEPHANTOPUS. Gen. Pl. 1347.

Involucrum partiale, 4-florum. *Corollulæ* ligulatæ, hermaphroditæ. *Pappus* setaceus. *Receptaculum* nudum.	Partial *involucrum*, 4-flowered. *Florets* ligulate, hermaphrodite. *Pappus* setaceous. *Receptacle* naked.

1. Carolinianus. Willd.

E. foliis radicalibus caulinisque oblongis, basi angustatis, subpilosis; caule folioso, piloso.	Leaves of the root and stem oblong, tapering at base, hairy; stem leafy, hairy.

Sp. pl. 3. p. 2390. Pursh, 2. p. 582. Nutt. 2. p. 187.
E. Scaber, Walt. p. 217. Mich. 2. p. 148.

Root perennial. *Stem* about two feet high, terete, villous, particularly near the base, branching towards the summit. *Leaves* numerous on the stem, oblong lanceolate, serrate, thin, slightly scabrous and hairy on both surfaces, tapering to an attenuated base near two inches long. *Flowers* sessile, in terminal clusters. *Bracteas* three unequal leaves, cordate, villous, sessile at the base of each capitulum. Heads generally composed of four clusters each four-flowered. *Involucrum* of the clusters nine to ten leaved, leaves linear lanceolate, hairy on the outside, the interior the longest. *Florets* all fertile. *Corolla* purple, tubular, five-cleft, deeply divided on one side so that the border becomes flat and ligulate, like the first division of the Syn. Æqualis to which this genus is closely allied. *Seeds* oblong, slightly angled. *Pappus* setaceous, awns five?

Grows in dry, moderately fertile soils.

Flowers July—September.

2. Nudicaulis. E.

E. foliis radicalibus ovali-lanceolatis, crenato-serratis, scabriusculis, subtus villosis; caule sub hirto, scabro, sub nudo.	Leaves of the root oval lanceolate, crenately serrate, somewhat scabrous, hairy underneath; stem hairy, rough, nearly naked.

E. Tomentosus? Pursh, 2. p. 582.
E. Carolinianus, var. Simplex, Nutt. 2. p. 187.

Stem one to two feet high, scabrous, and somewhat hispid, branching towards the summit, generally purple. Root *leaves* large, scabrous on the upper surface, very villous on the under. Stem *leaves* 0, excepting a small one at each division of the branches. *Bracteas* tomentose. *Scales* of the involucrum rigid.

This species which has always been confounded with the preceding though marked as a variety by Mr. Nuttall, is probably distinct. Its leaves are larger, more rigid, more villous, and confined to the base of the stem. The bracteal leaves are much more tomentose, and the scales of the involucrum more rigid and comparatively longer. It appears also to commence flowering later.

Grows in dry moderately fertile soils.

Flowers August—September.

CLASS XIX.

GYNANDRIA.

§ Monandria.

522 ORCHIS.
523 HABENARIA.
524 GOODYERA.
525 NEOTTIA.
526 CRANICHIS.
527 LISTERA.
528 POGONIA.
529 TRIPHORA.
530 CALOPOGON.
531 ARETHUSA.
532 BLETIA.
533 TIPULARIA.
534 MALAXIS.
535 CORALLORHIZA.
536 EPIDENDRUM.

Diandria.

537 CYPRIPEDIUM.

Hexandria.

538 ARISTOLOCHIA.

† *Anthera adnata, sub terminalis, persistens. Pollinia basi affixa e particulis angulatis elastice cohærentibus, composita.*	† *Anthers adnate, nearly terminal, persistent. Pollinia affixed by the base, composed of angular particles elastically cohering.*

ORCHIS. Gen. Pl.

Corolla ringens, petalo superiore fornicato. *Labellum* dilatum, basi subtus calcaratum. *Pollinia* 2, terminalia, adnata.	*Corolla* ringent, the upper petal vaulted. *Lip* dilated with a spur beneath at base. *Pollinia* (anthers, Lin.) 2, terminal, adnate.

1. Ciliaris. Lin.

O. labello oblongo-lanceolato, pinnatim ciliato, petalis duplo longiore; cornu germine longiore.	**Lip oblong-lanceolate, pinately ciliate, twice as long as the petals; horn longer than the germ.**

Sp. pl. 4. p. 8. Walt. p. 280. Mich. 2. p. 156. Pursh, 2. p. 585. Nutt. 2. p. 188.

Root perennial, composed of two small tubers. *Stem* one to two feet high, leafy, glabrous. *Leaves* lanceolate, acute, entire, nerved, sheathing at base, six to eight inches long, one to two wide. *Flowers* in a terminal spike, yellow, each protected by a leaf at base. *Perianth* 6-parted, 3 segments exterior, the upper erect, concave, the two lower obovate, deflected; three interior, the two lateral very small, incised at the summit; the inferior segment or labellum narrow lanceolate, longer than the lateral segments, beautifully laciniate or fringed. *Horn* at the base of the labellum filiform, longer than the germ. *Capsule* triquetrous, six furrowed, one celled, three valved. *Seeds* very numerous, very small.

Grows in wet soils—common along the margin of swamps.

Flowers July—August.

2. Blephariglottis. Willd.

O. labello lanceolato, ciliato, longitudine petali supremi; cornu germine longiore.	**Lip lanceolate, ciliate, as long as the upper petal; horn longer than the germ.**

Sp. pl. 4. p. 9. Pursh, 2. p. 585. Nutt. 2. p. 188.

This plant at least as understood by many of our botanists, though readily distinguished by its white corolla or perianth, is a very doubtful species. It grows intermingled with the O. Ciliaris, and excepting by colour is not easily discriminated. In the plants I have examined neither labellum nor horn furnished any permanent distinctions.

Grows with the preceding species in wet soils.

Flowers July—August.

3. Cristata. Mich.

O. labello oblongo, pinnatim ciliato; peta-	**Lip oblong, pinnately ciliate; petals round,**

lis rotundatis, binis lateralibus dentatis; cornu germine breviore.

the two lateral toothed; horn shorter than the germ.

Mich. 2. p. 156. Sp. pl. 4. p. 9. Pursh, 2. p. 585. Nutt. 2. p. 188.

Root tuberous. *Stem* erect, one to two feet high, slightly angled, leafy, glabrous. *Leaves* four to six inches long, one wide, lanceolate, nerved, sheathing at base. *Flowers* somewhat crowded, in a terminal spike. *Perianth* six-parted, yellow, the three exterior segments oval, entire, equal; of the interior the two lateral are smaller than the exterior, obovate, obtuse, incised or sharply toothed, the lower or labellum a little longer than the exterior segments, lanceolate, fringed. *Horn* about half as long as the germ. *Filament* (Caudicula, Richard) short, thick, bifid, forming the back and upper part of the genitaliferous column. (Gynostemium, R.) *Pollinia* incurved, ovate, alternate at the summit, with a white gland on one side, opening at the summit and discharging elastically the pollen, which appears to be attached originally to a viscous pedicel. *Germ* inferior, somewhat spiral, attenuated toward the summit. *Style* short, thick, forming the lower part of the gynostemium. *Stigma* depressed, glandular. *Seeds* very numerous, small.

Grows in damp soils along the margin of swamps, commonly intermingled with the two preceding species. It is readily distinguished by its smaller and more densely clustered flowers.

Flowers July—August.

4. LACERA. Mich.

O. labello petalis duplo-longiore, tripartito, laciniis multifidis; petalis exterioribus ovato-lanceolatis, interioribus linearibus; cornu germine breviore. E.

Lip twice as long as the petals, three-parted, with the segments many cleft; exterior petals ovate lanceolate, the interior linear; horn shorter than the germ.

Mich. 2. p. 156. Pursh, 2. p. 586.

Root *Stem* twelve to eighteen inches high, slender, glabrous. *Leaves* narrow lanceolate, nerved, sheathing at base. *Flowers* rather scattered along a terminal spike. Bracteal leaf shorter than the germs. Exterior segments of the perianth equal, ovate lanceolate, rather acute, of the interior the two lateral are very narrow, strap-shaped, rather obtuse, as long as the exterior, the labellum twice as long, three parted from the middle, so that the undivided base is nearly as long as the segments.

From the O. Psycodes (judging from specimens sent me by Muhlenberg) this plant differs essentially. It is distinguished by a more scattered spike, and by every portion of the flower, germ, segments, and labellum, longer and proportionally narrower.

Grows in the middle districts of Carolina. St. Stephen's, Dr. Macbride. Flowers—

5. Flava? Lin.

O. labello ovato, dentato crenatoque; cornu attenuato germinis longitudine; spica conferta; bracteis longitudine florum.

Lip ovate, toothed and crenate; horn tapering as long as the germ; spike crowded; bracteas as long as the flowers.

Sp. pl. 4. p. 33. Pursh, 2. p. 586. Nutt. 2. p. 188.

Stem about two feet high. *Leaves* narrow lanceolate, sheathing, the upper one small. *Flowers* in a short crowded spike, yellow. Bracteal leaves sometimes not longer than the germ. Exterior segments of the perianth larger than the interior; labellum lanceolate, the sides toothed or crenate, almost fimbriate. *Horn* subulate, generally shorter than the germ, nearly acute at the point.

This is the O. Flava of Nuttall; it appears however, to differ much from the original O. Flava of Clayton, ("floribus in spica longa congestis; labio inferiore nectarii trifido; lacinia intermedia majore; calcare germine longiore." Gron. Fl. Vir. p. 137.

Grows in the middle and upper districts of Carolina and Georgia. Flowers in the summer.

6. Nivea. Nutt.

O. labello lineari-oblongo, integro; petalis patentibus; cornu filiformi, germine longiore; foliis inferioribus linearibus prælongis, superioribus subulatis. Nutt.

Lip linear, oblong, entire; petals expanding; horn filiform, longer than the germ; lower leaves linear, very long, the upper subulate.

Nutt. 2. p. 188.

Lower *leaves* narrow, a span long, the upper very small. *Spike* rather dense, two to three inches long, bracteal leaves shorter than the germ. *Flowers* white, lip longer than the interior segments of the perianth. Genitaliferous column comparatively small, the pollinia consequently nearly sessile. Nutt.

Grows near St. Mary's, Georgia. Described by Mr. Nuttall from specimens collected by Dr. Baldwin. I have specimens which appear to agree with this species in which the horn is generally twice as long as the germ.

Flowers—

7. CLAVELLATA. Mich.

O. labello ovato, integerrimo; petalis conniventibus; cornu clavato, longitudine germinis; caule unifoliato.

Lip ovate, entire; petals connivent; horn clavate, as long as the germ; stem one-leafed.

Mich. 2. p. 155. Pursh, 2. p. 586. Nutt. 2. p. 189.
O. Tridentata, Sp. pl. 4. p. 41.

Stem about twelve inches high, glabrous, slender. *Leaves* lanceolate, nerved, sheathing, one large leaf near the base, and a few small ones towards the spike; sometimes though rarely two large leaves are found upon the stem. *Flowers* in a short, rather compact spike, small. *Petals* nearly equal, ovate, obtuse. *Labellum* longer than the petals, slightly three-toothed at the summit. *Horn* longer than the germ, conspicuously thickened at the end. (*Corolla* white, Pursh.)

Grows in the middle and upper districts of Georgia and Carolina.

Flowers—

8. VIRIDIS.

O. labello lineari, apice tridentato; petalis conniventibus; cornu obtuso, scrotiformi; bracteis flore sesquilongioribus.

Lip linear, three toothed at the summit; petals connivent; horn obtuse, scrotiform; bracteas longer than the flower.

Sp. pl. 4. p. 33. Pursh, 2. p. 587. Nutt. 2. p. 189.

Not above three inches high. *Flower* small, greenish white. Pursh.

With this species I am unacquainted.

Grows in dry grassy places on the high mountains of Virginia and Carolina. Pursh.

Flowers June—July.

9. SPECTABILIS.

O. labello obovato, indiviso, crenato, retuso; petalis rectis, lateralibus longioribus; cornu clavato germine breviore; bracteis flore longioribus; caule aphyllo.	**Lip obovate, undivided, crenate, retuse; petals straight, the lateral ones long; horn clavate, shorter than the germ; bracteas longer than the flower; stem leafless.**

Sp. pl. 4. p. 56. Pursh, 2. p. 587. Nutt. 2. p. 189.
O. Humilis, Mich. 2. p. 155.

Root palmate, mostly two-leaved; scape acutely pentangular, sometimes producing a leaf, few flowered; bracteas large and lanceolate; spur thick and obtuse, compressed, subclavate, about the length of the germ. *Segments* of the petaloid calyx all connivent and adhering, never expanding, of a bluish purple; lip white, broad ovate and entire. *Pollinia* clavate, pedicellate, concealed within the lateral cucullate cells of the genitaliferous column, grains of the pollen agglutinated by the base. Nuttall.

Grows in the mountains of Carolina. Michaux.

Flowers May—June.

10. FUSCESCENS?

O. labello ovato, basi dentato, petalis patentibus; cornu subulato, germinis longitudine.	**Lip ovate, toothed at base, petals expanding; horn subulate, as long as the germ.**

Sp. pl. 4. p. 33. Pursh, 2. p. 587. Nutt. 2. p. 189.

Stem about twelve inches high, leafy, glabrous. *Leaves* large for the size of the plant, lanceolate, glabrous, sheathing at base. *Flowers* rather scattered in a terminal spike. *Rachis* angled. *Corolla* small, (brownish yellow, Pursh,) the labellum longer than the other segments. *Horn* not as long as the germ.

I have specimens collected by Mr. Jackson near Louisville, Georgia, agreeing very nearly with others sent me from New-York under this name, by Dr. Torrey. In our southern species the bracteal leaves are scarcely longer than the germ, the upper ones not as long, and the horn decidedly shorter than the germ. Whether these plants agree really with the Siberian O. Fuscescens, of which there is no detailed description in Willdenow, remains yet to be determined. I should scarcely expect to meet with a Siberian plant in the alluvial districts of Georgia.

Grows on grassy hills. Pursh.

Flowers July. Pursh.

11. BIDENTATA. E.

O. labello ovali, oblongo, basi bidentata; petalis ovatis, patentibus; cornu germine incrassato-breviore; foliis angusto lanceolatis; caule nudiusculo. E.

Lip oval, oblong, 2-toothed at base; petals ovate, expanding; horn shorter than the thickened germ; leaves narnow lanceolate; stem nearly naked.

To the former species this has much affinity. It appears from specimens to be a taller plant with a more naked stem; the bracteal leaves about as long as the flower, the corolla larger, the labellum oval, longer than the petals, entire, excepting the two very distinct teeth near the base, horn scarcely more than half the length of the germ, somewhat thickened at the point; germ unusually thick; perhaps only differing from O. Fuscescens from a difference of soil and in my specimens of maturity.

Grows in the middle districts of Georgia and Carolina.

Flowers—

HABENARIA. Willd.

Corolla ringens, petalis interioribus bipartitis. *Labellum* dilatatum, basi subtus calcaratum. *Pollinia* nuda, distincta. *Cornua* 2 staminiformia, recta

Corolla ringent, with the interior petals two-parted. *Labellum* dilated with a spur underneath at base. *Pollen* masses naked, distinct. *Horns* (steril processes) ad basin antheræ.

2,staminiform, straight, at the base of the anther.

1. Michauxii. Nutt.

H. labello 3-partito, laciniis lateralibus setaceis; petalis interioribus bipartitis, lacinia inferiore setaceo, petalis exterioribus fere duplo longiore; cornu germine duplo longiore; foliis ovali-lanceolatis; bracteis acuminatis.

Lip 3-parted, lateral segments setaceous; interior petals 2-parted, the lower segment setaceous, nearly twice as long as the exterior petal; horn twice as long as the germ; leaves oval-lanceolate; bracteas acuminate.

Nutt. 2. 189.
O. Quinqueseta, Mich. 2. p. 155. Pursh, 2. p. 586.

Root *Stem* about two feet high, entirely clothed with numerous, oval-lanceolate, acute, glabrous leaves, sheathing at base. *Leaves* three to four inches long, nearly one and a half wide. *Flowers* scattered in a long terminal spike. *Bracteas* about the length of the germ, ovate-lanceolate, slightly acuminate. Three exterior segments of the perianth ovate, somewhat acute, concave; of the interior the two lateral biparted, the upper segments small, the lower linear or setaceous, as long as the segments of the labellum. *Labellum* three-parted, the lateral segments setaceous, longer than the middle one which is also very narrow. *Horn* twice as long as the germ, somewhat thickened towards the point.

This plant is to me very rare. I have only met with it once or twice, and then in dry pine barrens—near Beaufort.

Flowers August—October.

2. Repens. Nutt.

O. labello 3-partito, laciniis lateralibus setaceis; petalis interioribus bipartitis, lacinia

Lip 3-parted, the lateral segments setaceous; interior petals 2-parted, the lower inferiore setaceo, petalis exterioribus vix longiore; cornu germinis longitudine; foliis angusto-lanceolatis; bracteis acutis.

segment setaceous, scarcely longer than the exterior petals; horn as long as the germ; leaves narrow lanceolate, bracteas acute.

Nutt. 2. p. 190.

Root tuberous, creeping. *Stem* erect, twelve to eighteen inches high. *Leaves* not crowded as in the preceding species, narrow lanceolate, distinctly nerved. *Bracteas* ovate lanceolate, very acute, as long as the flower; three exterior segments of the perianth lanceolate, the upper vaulted, the two lateral expanding, of the interior segments, the two lateral biparted, the upper segment of each small, connivent, covered by the vaulted segment of the outer series, the lower setaceous; the labellum three-parted, the middle segment a little broader and shorter than the others. The Pollen masses are naked and distinct, at first enclosed in a hollow sack. Capsule triquetrous, furrowed, one celled, three-valved.

Grows in damp soils, common in the low grounds around Savannah; I have found it also near Beaufort and Charleston.

Flowers July—October.

†† *Anthera persistens, stigmati parallela. Pollinia stigmatis summitati affixa, particulis farinaceis sive angulatis.*

†† *Anther persistent, parallel with the stigma. Pollinia fixed to the summit of the stigma, composed of farinaceous or angular particles.*

GOODYERA. Brown.

Corolla ringens, petalis duobus inferioribus subtus labello gibbo apice indiviso, positis. *Columna* libera. *Pollen* angulatum.

Corolla ringent, the two lower petals placed underneath the gibbous and undivided lip. *Column* free. *Pollen* angular.

1. Pubescens. Willd.

G. foliis radicalibus ovatis, petiolatis, reticulatis, scapo vaginato floribusque pubescentibus; labello ovato, acuminato; petalis ovatis.

Leaves radical, ovate, petiolate, reticulate; scape with its sheath and flowers pubescent; lip ovate, acuminate, petals ovate.

Nutt. 2. p. 190.
Neottia Pubescens, Sp. pl. 4. p. 76. Pursh, 2. p. 590.
Satyrium Repens, Mich. 2. p. 157.

Root creeping. *Stem* twelve to eighteen inches high, resembling a scape, bearing only a few scattered scale-like flowers, very pubescent towards the summit. Root *leaves* ovate-lanceolate, entire, reticulately veined, five to seven nerved, attenuated at base to a petiole about an inch long. *Flowers* in a terminal spike. The upper segment of the perianth vaulted, covering the column, (the labellum ovate, acuminate, Willd.) speckled with purple.

Grows in the middle and upper districts of Carolina and Georgia, in damp soils.

Flowers July.

NEOTTIA. Swartz.

Corolla ringens, petalis duobus inferioribus sub labello imberbi affixis; petalis interioribus conniventibus. *Columna* aptera. *Pollen* farinaceum.

Corolla ringent, the two lower petals affixed under the unbearded lip; interior petals connivent. *Column* without wings. *Pollen* farinaceous.

1. Tortilis.

N. foliis radicalibus linearibus, glabris, acutis; scapo vaginato; floribus spiraliter se-

Leaves of the root linear, glabrous, acute; scape sheathing; flowers spirally secund;

cundis; labello trifido, crenulato.

lip three-cleft, crenulate.

Sp. pl. 4. p. 74. Pursh, 2. p. 589. Nutt. 2. p. 190.
Limodorum Præcox, Walt. p. 221.
Ophrys Æstivalis, Mich. 2. p. 157.

Roots tuberous, creeping. *Stem* eight to twelve inches high, pubescent towards the summit. *Leaves* of the stem subulate, acute, scarcely more than scales; of the root linear lanceolate, nine to ten inches long, generally decaying before the plant begins to flower. *Flowers* in a compact spiral spike. Bracteal leaves pubescent, nearly as long as the flower. Segments of the perianth white, connivent, nearly equal in length. The *lip* crenulate, indistinctly lobed.

Grows in damp soils.

Flowers through the summer.

2. CERNUA.

N. foliis lanceolatis, trinervibus; caule vaginato, spica oblonga densiflora; floribus recurvato cernuis; labello oblongo, integerrimo, acuto.

Leaves lanceolate, 3-nerved; stem sheathed; spike oblong, densely flowered; flowers recurved, nodding; lip oblong, entire, acute.

Sp. pl. 4. p. 75. Pursh, 2. p. 589. Nutt. 2. p. 190.
Limodorum Autumnale, Walt. p. 221.
Ophrys Cernua, Mich. 2. p. 158.

Very similar to the preceding species, from which it differs by a more crowded spike, and by larger flowers.

This genus merits in this country a farther examination. The number of varieties distinguished by the size of the flowers, by the extended or contracted spires of the spike, by the period of flowering, would lead to a suspicion that we had many species, but in the occasional examinations I have given them, I have been able to discover no permanent distinctions.

Grows in damp soils.

Flowers through the summer.

CRANICHIS. Swartz.

Corolla pentapetala, resupinata, subringens. *Labellum* fornicatum. *Anthera* stylo parallella, postice inserta.

Corolla 5-petalled, resupine, somewhat ringent. *Lip* vaulted. *Anther* parallel with the style, inserted behind.

1. Multiflora.

C. radicibus fasciculatis, teretibus, tomentosis; foliis ovali-lanceolatis, sub sessilibus; scapo multifloro, superne pubescente; petalis interioribus conniventibus; labello forni cato, acuminato. E.

Root fasciculate, terete, tomentose; leaves oval-lanceolate, nearly sessile; scape many flowered, pubescent near the summit; interior petals connivent; lip vaulted, acuminate.

Nutt. 2. p. 191.

Root composed of many terete, villous or tomentose fibres. *Scape* about two feet high, pubescent towards the summit. *Leaves* of the root oval-lanceolate, rather acute, glabrous, nerved, attenuated at base but scarcely prolonged to a petiole; of the stem merely sheathing scales. *Flowers* (fifteen to twenty) somewhat scattered in a terminal spike. Bracteal leaves very small, scarcely half as long as the germ, pubescent. Three exterior segments of the perianth lanceolate, acute, expanding, pubescent on the outer surface, of the interior segments the two upper (turned downwards from the resupine position of the flower) obliquely ensiform, connivent at the summit; *labellum* fornicate, compressed at the sides, acuminate, generally inclosing the genitaliferous column. *Perianth* pale green with streaks of deeper green, the sides of the labellum edged with a circle of deep green. *Column* short, gibbous, with an oblique pointed summit. *Anthers* inserted behind the summit, but when the column is enclosed in the labellum, appearing to be in front. *Germ* somewhat triquetous, tapering to the base.

Apparently allied to the C. Pauciflora of Jamaica.

Collected by Dr. Macbride in St. John's, Berkeley.

Flowers October.

LISTERA. Brown.

Corolla irregularis. *Labellum* pendulum, bifidum. *Columna* aptera, parva, *anthera* basi inserta. *Pollen* farinaceum.	*Corolla* irregular. *Lip* pendulous, 2-cleft. *Column* without wings, small, the *anther* inserted at the base. *Pollen* farinaceous.

1. Pubescens.

L. foliis radicalibus, ovatis, acutis; scapo aphyllo, pubescente, laxifloro; floribus pedicellatis, labello bilobo, vix petalis conniventibus longiore; capsulis clavatis; radice palmato.	Leaves radical, ovate, acute; scape leafless, pubescent, loosely flowered; flowers on pedicels, with the lip two-lobed, scarcely longer than the connivent petals; capsules clavate; root palmate.

Nutt. 2. p. 191.
Epipactis Pubescens, Pursh, 2. p. 591.
Ophrys Pubera, Mich. 2. p. 158.
Arethusa Racemosa, Walt. p. 222.

Flowers small, greenish white. Pursh.
With this species I am unacquainted.
Grows in the pine barrens of Carolina and Georgia. Pursh.
Flowers June.

2. Convallarioides.

L. caule bifolio; foliis oppositis, cordato-subrotundis, acutis; spica parviflora; labello	Stem two-leaved; leaves opposite, cordate, nearly round, acute; spike bearing

oblongo, apice dilatato, obtuse bilobo; germine subgloboso; radice fibrosa.

small flowers; lip oblong, dilated at the summit, obtusely two-lobed; germ somewhat globular; root fibrous.

Nutt. 2. p. 191.
Epipactis Convallarioides, Sp. pl. 4. p. 88. Pursh, 2. p. 591.

Root fasciculate. *Stem* about a foot high, bearing near the middle two opposite sessile leaves. *Leaves* cordate-ovate, acute, nerved, glabrous. *Flowers* small, in a terminal raceme. *Pedicels* three to four lines long, bracteal leaves very small. *Petals* five, somewhat reflected, greenish. *Labellum* three or four times as long as the petals, deeply two-cleft, the segments acute. *Capsule* oval.

This plant from the acute segments of the labellum probably belongs to the L. Cordata as described by Mr. Nuttall, but as all the plants sent me from the north as the E. Convallarioides have this characteristic also, I have retained this name until I can have an opportunity of comparing the two species.

Found near Savannah in damp soils by Dr. Baldwin.

Flowers in March.

††† *Anthera terminalis, inserta, persistens. Pollen angulatum vel farinaceum.*

††† *Anther terminal, inserted, persistent. Pollen angular or farinaceous.*

POGONIA. Juss.

Petala 5, distincta, eglandulosa. *Labellum* sessile, cucullatum, interne cristatum. *Pollen* farinaceum.

Petals 5, distinct, without glands. *Lip* sessile, cucullate, internally crested. *Pollen* farinaceous.

1. OPHIOGLOSSOIDES. Lin.

P. radice fibrosa; scapo dissite bifoliato,

Root fibrous; scape remotely two-leaved;

1—2 floro; foliis ovali-lanceolatis; petalis subæqualibus, labello fimbriato.	1—2 flowered; leaves oval-lanceolate; petals nearly equal; lip fimbriate.

Nutt. 2. p. 192.
Arethusa Ophioglossoides, Sp. pl. 3. p. 80. Mich. 2. p. 159. Pursh, 2. p. 590.

Root perennial. *Stem* about twelve inches high, terete, glabrous, generally bearing two leaves and one terminal flower. *Leaves* alternate, one near the middle, the other at the summit of the stem, lanceolate, acute, nerved, sessile, and semiamplexicaule. *Perianth* five leaved, purple, approaching to rose colour. *Petals* distinct, nearly of equal length, somewhat connivent, oblong, the uppermost widest. *Labellum* scarcely longer than the petals, winged, the centre thickened with elevated crested ridges. *Column* much shorter than the lip, thick, solid. *Anthers* operculate, contained in a small depression at the summit.

I have specimens with the leaves narrow lanceolate, very acute; and leaves oval-lanceolate, scarcely acute, with the stem shorter and flowers larger. The first from the low country of Carolina and Georgia, the second from the upper districts.

Grows in damp soils.

Flowers April—May.

2. DIVARICATA.

P. radice fibrosa; scapo remote bifoliato, unifloro; foliis oblongo-lanceolatis; petalis exterioribus longo-linearibus, patulis; labello subtrilobo, crenulato.	Root fibrous; scape 1-flowered, with two distant leaves; leaves oblong-lanceolate; exterior petals long, linear, expanding; lip somewhat three-lobed, crenulate.

Nutt. 2. p. 192.
Arethusa Divaricata, Sp. pl. 4. p. 81. Walt. p. 222. Mich. 2. p. 160.

Roots fibrous, somewhat carnose. *Stem* about two feet high, bearing two leaves, one near the middle of the stem, the other at the summit, and one terminal flower. *Leaves* narrow lanceolate, acute, sometimes abruptly so, nerved, glabrous, and slightly glaucous. *Perianth* five-leaved, the three exterior linear-lanceolate, two to two and a half inches long, expanding or erect, dark purple; the two interior shorter, lanceolate, somewhat connivent; incarnate. *Labellum* nearly as long as the exterior petals, obtusely three-lobed towards the summit with the middle lobe extended, crested along the middle, crenulate on the margin. *Column* much shorter than the lip, clavate, solid. *Germ* furrowed, one celled, three valved.

Grows in damp soils around ponds in the pine barrens.

Flowers May.

3. VERTICILLATA. Muhl.

P. foliis quinis ovali-lanceolatis, basi cuneatis, verticillatis; caule unifloro; petalis tribus exterioribus longissimis, linearibus, interioribus lanceolatis, labello trilobo, lacinia media undulata.	Leaves five, oval-lanceolate, cuneate at base, verticillate; stem one-flowered; the three exterior petals very long, linear, the interior lanceolate; lip 3-lobed, the middle segment undulate.

Nutt. 2. p. 192.
Arethusa Verticillata, Sp. pl. 4. p. 81. Pursh, 2. p. 591.

Root fasciculate, fibres simple and carnose. *Stem* about twelve inches high, terete, slightly glaucous. *Leaves* five, verticillate (two, however, inferior,) at the summit of the stem, oval-lanceolate, cuneate, nerved, acuminate, a few scales sheathing the base of the stem. *Flower* sessile on a long germ at the summit of the stem; three exterior petals linear, two to two and a half inches long, of a greenish brown colour, interior petals paler, oblong, obtuse, connivent, scarcely one third of the length of the exterior petals. *Labellum* shorter than the interior petals, crested along the centre, winged, with the margins inflected, the terminal lobe broad, pendent, undulate. *Column* shorter than the labellum, subclavate. *Anther* operculate, two celled, unguiculately articulated behind, and received into a margined depression at the summit of the column. Nutt.

Grows in oak lands, very rare in the low country. Silk Hope, Little Ogeechee—near Columbia, South-Carolina, and Milledgeville, Georgia, more abundant—probably common in all of the upper districts.

Flowers May.

TRIPHORA. Nuttall.

Petala 5, distincta, æqualia, conniventia, eglandulosa. *Label-*	*Petals* 5, distinct, equal, connivent, without glands. *Lip* un-

lum unguiculatum, cucullatum. *Columna* spathulata, complanata, aptera. *Pollen* farinaceum.

guiculate, cucullate. *Column* spathulate, flat, without wings. *Pollen* farinaceous.

1. PENDULA.

T. radice tuberosa; caule folioso, summitate paucifloro (2—4;) foliis ovatis, amplexicaulibus, floribus pedunculatis, alternis; labello integro.

Root tuberous; stem leafy, few flowered, (2—4) near the summit; leaves ovate, amplexicaule; flowers alternate, on peduncles; lip entire.

Nutt. 2. p. 193.
Arethusa Pendula, Sp. pl. 4. p. 82. Pursh, 2. p. 590.
Arethusa Parviflora, Mich. 2. p.

Root tuberous, oblong. *Stem* about twelve inches high, terete, slightly angled by the decurrent leaves, carnose, the summit when young generally nodding. *Leaves* short, alternate, nerved, somewhat amplexicaule, with the margins slightly decurrent. *Flowers* two to four, axillary, erect when expanded, before and after expansion nodding. *Peduncles* five to six lines long. Segments of the perianth five, lanceolate, acute, white tinged with green and pale purple, the two interior connivent. *Labellum* scarcely longer than the petals, unguiculate, slightly three-lobed, the lateral lobes inflected, the middle circular with the margin crenulate? *Column* rather shorter than the lip, flat. *Anther* one celled, purple. (*Pollen* farinaceous, the masses separated superficially by two internal lamellæ. Nutt.)

Grows in rich damp soils.

Flowers July—August.

CALOPOGON. Brown.

Petala 5, distincta. *Labellum* resupinatum? unguiculatum, cristatum. *Columna* libera. *Pollen* angulatum.

Petals 5, distinct. *Lip* resupine? unguiculate, crested. *Column* free. *Pollen* angled.

2. PULCHELLUS.

C. foliis radicalibus, angusto - lanceolatis, nervosis; scapo 6—10 floro; labello erecto, basi attenuato, lamina expansa, disco concavo, piloso.	Leaves radical, narrow lanceolate, nerved; scape 6—10 flowered; lip erect, tapering at base, the lateral segments expanding, the disk concave, hairy.

Nutt. 2. p. 194.
Cymbidium Pulchellum, Sp. pl. 4. p. 105. Pursh, 2. p. 592.
Limodorum Tuberosum, Mich. 2. p. 159.
Ophrys Barbata, Walt. p. 221.

Root tuberous, nearly round. *Stem* twelve to eighteen inches high, erect, naked, glabrous. *Leaf* generally one, sheathing the base of the stem, (but showing around its own base the vestiges of other leaves, perhaps those of former years,) eight to ten inches long, scarcely one wide, nerved, acute, erect, somewhat rigid. *Flowers* resupine? rather distant, in a terminal spike. Bracteal leaf small, very acute. Segments of the perianth lanceolate, the two lateral exterior ones oblique, the interior rather narrower. *Labellum* on the upper side of the perianth (is not the flower as in Cranichis resupine?) about as long as the petals, attenuate and distinctly three-nerved or ribbed along the claw, very much dilated at the summit, very obtuse, conspicuously bearded just where it begins to contract, margin entire, column declining from the lip, curved, tapering to the base, bearing two dilated wings near the summit. *Anther*, as in all of this division, received into a small cavity at the summit of the column, attached behind by a short jointed pedicel.

Flowers incarnate, large for this class, very handsome.

Var. GRAMINIFOLIA.

This variety which is remarkable and most probably a distinct species, yet offers no prominent mark of distinction. Its flowers are scarcely more half the size of the preceding, the leaves one to two lines wide, the bracteal leaves acuminate, and the column I think comparatively shorter. It flowers earlier.

Grows in damp soils. The first variety delights to grow on old decaying and floating logs, in mill ponds, &c. mingled with mosses and aquatic grasses.

Flowers May—June.

The second in pine barrens.

Flowers April—May.

ARETHUSA. Lin.

Petala 5, basi connata. *Labellum* basi columnæ adnatum, superne cucullatum, cristatum. *Pollen* angulatum.	*Petals* 5, connate at base. *Lip* cucullate at the summit, attached at base to the column, crested. *Pollen* angled.

1. **Bulbosa.**

A. aphylla; radice globosa; scapo vaginato, unifloro; corolla laciniis superioribus incurvatis; labello subcrenulato.	Leafless; root globose; scape sheathed, one-flowerod; corolla with the upper segments incurved; lip slightly crenulate.

Spl. pl. 4. p. 80. Mich. 2. p. 160. Pursh, 2. p. 590. Nutt. 2. p. 194.

Stem about twelve inches high, the lower part clothed with sheaths, (three to four) which have no expanded blade. *Flower* solitary, terminal, fragrant. Segments of the perianth nearly equal, purple, the upper incurved, somewhat connivent. *Labellum* not longer than the petals, the inflected margin crenulate, crested internally. *Column* shorter than the lip.

Grows in the mountains of Carolina, Mich. I have never seen it in the low country.

Flowers in June, Pursh.

†††† *Anthera terminalis, mobilis, decidua. Pollinia demum ceracea.*	†††† *Anther terminal, moveable, deciduous. Pollen finally cereaceous.*

BLETIA. Ruiz and Pavon.

Petala 5, distincta. *Labellum* sessile, cucul-	*Petals* 5, distinct. *Lip* sessile, cucullate,

latum, interdum basi calcaratum. *Columna* libera. *Pollinia* 4 vel 8, biloba.

sometimes with a spur at base. *Column* free. *Pollen* masses 4 or 8, two-lobed.

1. VERECUNDA.

B. foliis radicalibus, lato-lanceolatis, plicato-nervosis; scapo multifloro; petalis interioribus conniventibus; labello ventricoso, lamina emarginata, crispa, sulcata. Swartz.

Leaves radical, broad, lanceolate, plicate, nerved; scape many flowered; interior petals connivent; lip ventricose, the border emarginate, curled, furrowed.

Nutt. 2. p. 194.
Cymbidium Verecundum, Sp. pl. 4. p. 105. Pursh, 2. p. 592.
Limodorum Trifidum, Mich. 2. p. 159.

With this species I am unacquainted. Pursh mentions, I suspect inaccurately, that it grows in Carolina. Mr. Nuttall considers it as an inhabitant of Florida. Michaux, who cultivated it near Charleston where it flowered in the autumn, received it from the Bahama Islands.

2. APHYLLA. Nuttall.

B. aphylla; scapo tereti, squamoso, superne attenuato; squamis ovatis, alternis; labello ecalcarato. Nut.

Leafless; scape terete, scaly, tapering near the summit; scales ovate, alternate; lip without a spur.

Nutt. 2. p. 194.
Arethusa Spicata, Walt. p. 222.

Root tuberous, articulate. *Stem* one to two feet high, erect, simple. *Leaves* merely coloured scales, the lower sheathing, the upper sessile. *Spikes* many flowered, flowers pendulous. *Petals* five, distinct at base, somewhat connivent, oblong lanceolate, the exterior a little longer than the interior, brown streaked with purple. *Lip* dilated at the summit, emarginate, slightly undulate, crested along the centre with six brightly coloured

ridges; shorter than the petals, with no vestige of a spur at base, lateral segments erect, veined. *Column* shorter than the lip, incurved, somewhat clavate; operculum emarginate, vertical, yellow, with the summit of the lobes purple. *Pollinia* two? yellow, deciduous, each with a fissure through which the farinaceous pollen is discharged. *Capsule* clavate, somewhat trigonous.

This plant has always been considered by our southern botanists as the A. Spicata of Walter. It grows in rich soils near the margins of swamps. St. John's, Dr. Macbride; Louisville, Georgia, Mr. Jackson; Florida, Dr. Baldwin.

Flowers August—September.

TIPULARIA. Nuttall.

Petala spathulata, patentia. *Labellum* integrum, sessile, basi subtus calcaratum. *Columna* aptera, libera. *Anthera* operculata, persistens. *Pollinia* 4, parallela.

Petals spathulate, expanding. *Lip* entire, sessile, with a spur underneath at base. *Column* without wings, free. *Anther* operculate, persistent. *Pollinia* 4, parallel.

1. Discolor.

Nutt. 2. p. 195.
Orchis Discolor, Pursh, 2. p. 586.

Bulbs concatenated. *Leaf* solitary, plaited and nerved. *Flowers* in a long terminal raceme, nodding. *Bracteas* 0. Segments of the perianth five, oblong, expanding. *Lip* entire, very short and concave, crenulate; spur filiform, nearly twice the length of the germ. *Column* porrected, margined at the sides. *Anther* operculate, persistent; operculum articulated behind, furnished with two auxiliary valves closing internally upon the four masses of pollen; masses solid and parallel, neither granular nor pulverulent. Nuttall.

Grows in pine barrens. New-Jersey to Carolina, Pursh. Collected in the upper districts of Carolina by Dr. Macbride.

Flowers August.

MALAXIS. Swartz.

Petala 5, patentia, resupinata. *Labellum*

Petals 5, expanding, resupine. *Lip*

complanatum, indivisum, sessile. *Columna* porrecta. *Pollinia* 4, parallela, stigmatis summitati affixa.	flattened, undivided, sessile. *Column* extended. *Pollinia* 4, parallel, affixed to the summit of the stigma.

1. Liliifolia. Lin.

M. foliis binis, ovato-lanceolatis; scapo triquetro; petalis interioribus filiformibus, reflexis, discoloribus; labello concavo, obovato, apice acuto.	Leaves two, ovate-lanceolate; scape triquetrous; interior petals filiform, reflexed, differently coloured; lip concave, obovate, acute at the summit.

Sp. pl. 4. p. 90. Pursh, 2. p. 592. Nutt. 2. p. 196.
Ophrys Trifolia? Walt. p. 220.

Roots bulbous. *Leaves* all radical, two, oval lanceolate, acute, glabrous, slightly nerved, entire, loosely sheathing the base of the stem, about three inches long, nearly two wide, a third, exterior, consisting of scarcely more than a sheath, with an oblique acute summit. *Scape* angular, six to eight inches high. *Flowers* numerous in a terminal raceme. (Three exterior segments of the perianth acute, white, the two interior filiform, yellowish, reflexed, the lower lip broad, obovate, with an abrupt point of a pale olive colour. Willd.)

Grows in the upper districts of Carolina and Georgia, in rich woodland, among decaying vegetables. I have not seen it in the low country.
Flowers June—July. Pursh.

2. Ophioglossoides. Muhl.

M? folio solitario, ovato, amplexicaule; scapo pentagono; labello apice bifido.	Leaf solitary, ovate, amplexicaule; scape 5-angled; lip 2-cleft at the summit.

Sp. pl. 4. p. 90.
M. Unifolia, Mich. 2. p. 157.
Microstylis Ophioglossoides, Nutt. 2. p. 196.

Root bulbous. *Stem* four to six inches high, with a leaf near the middle and a sheath at base. *Leaf* ovate, sessile, amplexicaule. *Flowers* numerous, very small, in a terminal raceme. *Petals* five, connivent, only one of them deflected, the two interior filiform. *Lip* about the length of the petals, erect, concave, broadest at the base, cucullate over the anthers, summit truncate, emarginate and divaricate, bidentate, producing also an intermediate denticulation. *Column* minute, scarcely visible. *Anthers* two; the exterior whitish, producing two masses of pollen, the interior which is acute and whitish only one. Nutt.

Grows with the preceding. Sometimes though rarely met with in the low country.

Flowers May—June. Pursh.

CORALLORHIZA. Haller.

Petala æqualia, conniventia. *Labellum* plerumque basi productum. *Columna* libera. *Pollinia* 4, obliqua, (nec parallela.)

Petals equal, connivent. *Labellum* frequently extended at base. *Column* free. *Pollinia* four, oblique; not parallel.

1. INNATA. Brown.

C. labello trifido, calcare obsoleto, germini adnato; capsula obovata; folio nullo.

Labellum three-cleft, with the spur obsolete, attached to the germ; capsule obovate; leaf 0.

Nutt. 2. p. 197.
Cymbidium Corallorhizon, Sp. pl. 4. 109.

Root tuberous, branching, divaricate. *Stem* twelve to fourteen inches high, glabrous, clothed with sheaths which at the summits are abruptly acute, the upper frequently terminating in a subulate leaf nearly an inch long. *Flowers* in a terminal raceme, nodding. Segments of the perianth oblong lanceolate, connivent; of an obscure purplish brown colour; lip bidentate near the base, with the teeth inflected. *Column* much shorter than the petals.

Grows in rich wooded lands. I have specimens sent me from Boston by Dr. Bigelow, and some collected at St. Mary's, Georgia, in which I can discern no difference.

Flowers September—October.

2. Odontorhiza. Willd.

C. scapo vaginato; folio nullo; floribus pedicellatis; petalis lanceolatis, æqualibus; labello integro, ovali, obtuso, crenulato, calcare obsoleto, germini adnato; capsula globosa.

Scape sheathed; leaf 0; flowers on pedicels; petals lanceolate, equal; labellum entire, oval, obtuse, crenulate, with the spur obsolete, attached to the germ; capsule globular.

Nutt. 2. p. 197.
Cymbidium Odontorhizon, Sp. pl. 4. p. 110. Pursh, 2. p. 593.
Ophrys Corallorhiza, Mich. 2. p. 158.

Root much branched, dentate. *Scape* eight to twelve inches high, slender, clothed with two or three sheaths, acute at the summit. *Flowers* numerous, small, in a terminal raceme, pendulous. Segments of the perianth brownish, connivent, the lateral one narrow. *Lip* dilated, white, spotted with purple. *Palate* bidentate. *Column* short, margined at base. *Capsule* globose.

Grows in rich shaded soils. In oak lands near Beaufort.

Flowers in March, probably again in the autumn.

3. Hyemalis.

C? folio unico, ovali-lanceolato, nervoso, sub plicato; labello unguiculato, trifido, nec basi producto, lacinia intermedia crenulata; petalis conniventibus.

Leaf one, oval lanceolate, nerved, somewhat plaited; labellum unguiculate, three-cleft, not produced at base, the middle segment crenulate; petals connivent.

Nutt. 2. p. 108.
Cymbidium Hyemale, Sp. pl. 4. p. 107. Pursh, 2. p. 593.

Root concatenately bulbous. *Leaf* solitary, large, oval, lanceolate, somewhat plaited, rigid, springing from the root and tapering at base to a petiole two to three inches long. *Scape* twelve to eighteen inches high, clothed with about three loose sheaths. *Flowers* in a terminal raceme, at first erect, afterwards pendulous. *Petals* linear oblong, connivent, distinct, all nearly equal in size and form. *Lip* unguiculate, distinct at the base, and about the length of the petals, dilated towards the extremity, trifid, ridged along the centre, the middle lobe round, with the margin undulate and crenulate. *Column* of an equal thickness and slightly curved, shorter than the lip; lid of the anthers membranaceous, caducous. *Pollinia* four, lenticular and cereaceous, laterally attached to the summit of the column, at length deciduous. Nuttall.

Grows in rich shaded soils.

Flowers May. Pursh.

EPIDENDRUM. Lin.

Columna cum labelli ungue in tubum coalita, (interdum decurrens.) *Pollinia* 4, parallela, septis persistentibus divisa, basi filamento granulato, elastico, incrassata.

Column with the claw of the labellum united into a tube, sometimes decurrent. *Pollinia* 4, parallel, divided by persistent partitions, thickened at base by the granular elastic filament.

1. CONOPSEUM. Aiton?

E. foliis lanceolatis, rigidis, lucidis, perennantibus; caule simplici; floribus spicatis, erectis; labello apice trilobo, lacinia intermedia retusa; petalis interioribus angustioribus.

Leaves lanceolate, rigid, lucid, perennial; stem simple; flowers in spikes, erect; labellum 3-lobed at the summit, the middle segment retuse; the interior petals narrow.

Hort. Kew. 5. p. 219. Nutt. 2. p. 198.
E. Magnoliæ, Muhl. Cat. p. 81.

Root composed of thick fleshy fibres matted together and adhering to the barks of trees. *Branches* short, alternate. *Leaves* generally two on each branch, approximate, lanceolate, acute, very entire, succulent, obscurely nerved, terminating at base in a closed sheath. *Flowers* five to eight, in a terminal raceme. Bracteal leaves very small. Exterior segments of the perianth three, lanceolate, a little connivent, six to seven lines long, pale yellow tinged with purple; the two lateral interior segments cuneate, obovate, pale yellow, as long as the exterior, but more slender. *Column* more than half as long as the perianth, dilated; summit of the lip three-lobed. *Pollinia* four, near the summit of the tube, covered with an operculum having four cells.

Grows along the sea-coast of Georgia and Carolina, on the bark of trees, principally of evergreens.

The most northern locality in which I have seen this plant is on Edings' Island, at the entrance of Port Royal inlet. I found it there growing on the bark of the Magnolia Grandiflora, and sent it to Dr. Muhlenberg, who placed it in his catalogue as the E. Magnoliæ. In passing to the south along the sea-coast, it becomes more common, and is found on several species of oak, and I believe on other trees.

Flowers in August and September; probably through the whole summer.

GYNANDRIA DIANDRIA.

CYPRIPEDIUM. Lin.

Labellum ventricosum, inflatum, saccatum. *Corolla* tetrapetala, patens. *Columna* superne lobo petaloideo appendiculata.	*Labellum* ventricose, inflated, forming a sack. *Corolla* 4-petalled, expanding. *Column* near the summit furnished with a petal-like lobe.

1. Parviflorum. Salisbury. Trans. Lin. Soc. 1. p. 77.

C. caule folioso; lobo styli triangulari,	Stem leafy; lobe of the style triangular,

acuto; petalis exterioribus ovato oblongis acuminatis, interioribus linearibus contortis; labello petalis breviore, compresso.	acute, exterior petals ovate oblong, acuminate, the interior linear, twisted; labellum shorter than the petals, compressed.

Sp. pl. 4. p. 143. Pursh, 2. p. 594. Nutt. 2. p. 199.

Root perennial, composed of thick fleshy fibres. *Stem* eight to ten inches high, a little pubescent. *Leaves* five to six, alternate, lanceolate, acute, nerved, somewhat pubescent underneath, sessile, sheathing at base. *Flowers* generally solitary. Exterior segments of the perianth three, ovate lanceolate, expanding, two interior narrower, longer, tortuous, bearded on the inner surface near the base, all of an obscure green colour with brown lines externally pubescent. *Lobe* of the style triangular, somewhat sagittate. *Labellum* yellow, with obscure spots, shorter than the petals, smooth on the outsides, bearded within at base.

Grows in the upper and mountainous districts of Carolina and Georgia.

Flowers May—June. Pursh.

2. Pubescens. Willd.

C. caule folioso; lobo styli triangulari-oblongo, obtuso; petalis exterioribus ovato-oblongis, acuminatis, interioribus longissimis linearibus, contortis, labello petalis breviore, compresso.	Stem leafy; lobe of the style triangular, oblong, obtuse; exterior petals ovate oblong, acuminate, the interior very long, linear, twisted; labellum shorter than the petals, compressed.

Sp. pl. 4. p. 143. Pursh, 2. p. 594. Nutt. 2. p. 199.
C. Calceolus, Mich. 2. p. 161. Walt. p. 222.

Petals green, dotted with red. *Labellum* yellow, contracted at the mouth. From the preceding which it resembles very much, it differs by a flower twice as large and by the different figure of the lobe. *Stem* one to two flowered. All of the American species have their leaves pubescent, but the hairs in this are more evident. Willd.

The leaves, too, in my specimens are larger, more distinctly nerved, and the narrow segments of the perianth longer; but the plant not as pubescent as C. Spectabile.

Grows in rocky soils on fertile hills in the upper districts of Carolina and Georgia.

Flowers in May.

3. SPECTABILE. Salisbury.

C. caule folioso; lobo styli elliptico-cordato, obtuso; petalis exterioribus lato-ovalibus obtusis; labello petalis longiore, antice fisso.

Stem leafy; lobe of the style elliptic-cordate, obtuse; exterior petals broad, oval, obtuse; labellum longer than the petals, split in the front.

Sp. pl. 4. p. 143. Pursh, 2. p. 594. Nutt. 2. p. 199.
C. Reginæ, Walt. p. 222.
C. Canadense, Mich. 2. p. 161.

Root perennial. *Stem* twelve to fourteen inches high, hirsute. *Leaves* six to seven, oval-lanceolate, entire, nerved, pubescent, sheathing at base. *Flowers* two to three, large. Segments of the perianth white, oval, the two interior narrower, linear-lanceolate. *Lobe* of the style white, with red spots. *Labellum* pale rose colour, with deeper streaks, internally bearded near the base.

Grows in meadows among the mountains.

Flowers May—June.

4. HUMILE. Salisbury.

C. scapo aphyllo, unifloro; foliis radicalibus geminis, oblongis, obtusis; lobo styli subrotundo - rhomboideo, acuminato, deflexo; labello petalis lanceolatis longiore, antice fisso.

Scape leafless, one-flowered; leaves of the root two, oblong, obtuse; lobe of the style nearly round, rhomboidal, acuminate, deflected; labellum longer than the lanceolate petals, split in front.

Sp. pl. 4. p. 144. Pursh, 2. p. 595. Nutt. 2. p. 199.
C. Acaule, Mich. 2. p. 199.

Root perennial. *Scape* six to eight inches high, pubescent, leafless excepting a small bracteal leaf at the base of the germ, one-flowered. *Leaves* of the root two, lanceolate, nerved, pubescent. Segments of the perianth ovate-lanceolate, brownish purple, the interior narrower and a little tortuous. *Labellum* purple with deeper streaks, large, divided in front, pubescent.

Grows in rocky soils, in shaded situations. No species of this remarkable genus is found in the low country of Carolina or Georgia.

Flowers May—June.

GYNANDRIA HEXANDRIA.

ARISTOLOCHIA.

Calyx 0. *Corolla* 1 petala, ligulata, basi ventricosa. *Capsula* 6 locularis, polysperma, infera.	*Calyx* 0. *Corolla* 1 petalled, ligulate, ventricose at base. *Capsule* 6 celled, many seeded, inferior.

1. Sipho. L'Heritier.

A. foliis cordatis, acutis; caule volubili; pedunculis unifloris, bractea ovata instructis; corollis adscendentibus, limbo trifido æquali.	Leaves cordate, acute; stem voluble; peduncles one-flowered, furnished with an ovate bractea; corolla ascending, the border three-cleft, equal.

Sp. pl. 4. p. 155. Mich. 2. p. 161. Pursh, 2. p. 596. Nutt. 2. p. 199.

A vine climbing over trees of large size. *Leaves* alternate, very large, cordate, acute, strongly veined, sprinkled with hairs over both surfaces.

Peduncles solitary. *Corolla* long, somewhat tubular, brown, the border three-cleft, equal. *Anthers* six, beneath the stigmas. *Style* short, stigma six-parted.

Grows on the mountains, Pennsylvania to Georgia.
Flowers June. Pursh.

2. TOMENTOSA. Sims.

A. caule volubili; foliis rotundato cordatis, subtus tomentosis; corolla villosa, limbo trifido, subæquali.	Stem voluble; leaves nearly round, cordate, tomentose underneath; corolla villous, the border 3-cleft, nearly equal.

Nutt. 2. p. 199.
A. Hirsuta, Muhl. Cat. p. 81.

Stem ascending to the summits of the loftiest trees, cordate, nearly round, tomentose underneath, strongly veined, when young entirely covered as well as the young branches and corolla with a dense villous tomentum. *Peduncles* solitary, without bracteal leaves. *Corolla* ascendant, greenish yellow, the border three-cleft, the orifice oblique, the margin rugose, dark purple. *Stigmas* three. *Anthers* immersed in the style. Nutt.

Grows on the mountains of Carolina. Nutt.
Flowers—

3. SERPENTARIA. Lin.

A. foliis cordatis, oblongis, acuminatis; caule flexuoso; pedunculis radicalibus; corollæ labio lanceolato.	Leaves cordate, oblong, acuminate; stem flexuous; peduncles radical; lip of the corolla lanceolate.

Sp. pl. 4. p. 159. Walt. p. 223. Nutt. 2. p. 162. Pursh, 2. p. 569. Nutt. 2. p. 200.

Root perennial, composed of many filiform fibres, pungent and aromatic. *Stem* six to eight inches high, herbaceous, pubescent, erect, geniculate and knotty at base, as if formed of the remains of older stems. *Leaves* few, oblong lanceolate, slightly acuminate, a little hairy, cordate at base. *Flowers* few, at the base of the stem, laying on or sometimes under the surface of the earth. *Peduncles* one-flowered. *Corolla* ventricose at base, slightly three-cleft at the summit; one lobe extended, lanceolate.

Grows in dry soils.

Flowers in the summer.

4. Hastata. Nutt.

A. caule flexuoso, simplici, erecto; foliis subcordato - hastatis, acutis; pedunculis radicalibus; corollæ labio ovato.

Stem flexuous, simple, erect; leaves somewhat cordate, hastate, acute; peduncles radical; lip of the corolla ovate.

Nutt. 2. p. 200.

Leaves attenuate, sublanceolate, auriculate, acute, pubescent. Nutt.

I have seen specimens from the mountains near Pendleton belonging apparently to this species, in which the leaves were certainly very different from the simple, oblong, cordate leaves of our common A. Serpentaria. They were, however, without flowers, and the plants will still require examination and comparison.

Grows in the mountains of Carolina.

Flowers—

CLASS XX.

MONOECIA.

MONANDRIA.

539 ZOSTERA.
540 CAULINIA.
541 CHARA.

DIANDRIA.

542 PODOSTEMUM.
543 LEMNA.

TRIANDRIA.

544 TYPHA.
545 SPARGANIUM.
546 TRIPSACUM.
547 MANISURIS.
548 CAREX.
549 SCLERIA.
550 COMPTONIA.
551 TRAGIA.
552 ERIOCAULON.

TETRANDRIA.

553 ALNUS.
554 BOEHMERIA.
555 URTICA.
556 PARIETARIA.
557 MORUS.

PENTANDRIA.

558 ATRIPLEX.
559 PLANERA.
560 CELTIS.
561 SCHISANDRA.
562 CROTONOPSIS.
563 AMARANTHUS.

HEXANDRIA.

564 ZIZANIA.

POLYANDRIA.

565 MYRIOPHYLLUM.
566 SAGITTARIA.
567 QUERCUS.
568 CORYLUS.
569 FAGUS.
570 CASTANEA.
571 BETULA.
572 CARPINUS.
573 OSTRYA.
574 PLATANUS.
575 LIQUIDAMBAR.
576 JUGLANS.
577 CARYA.
578 ARUM.
579 CALADIUM.

MONADELPHIA.

580 PINUS.
581 THUJA.
582 CUPRESSUS.
583 ACALYPHA.
584 CROTON.
585 JATROPHA.
586 STYLLINGIA.
587 EUPHORBIA.
588 PHYLLANTHUS.
589 MELOTHRIA.
590 CUCURBITA.
591 SICYOS.

MONOECIA MONANDRIA.

ZOSTERA.

Calyx et *Corolla* 0. *Anthera* ovata, sessilis. *Germen* ovatum, spadici unilaterali insertum. *Stylus* bifidus. *Capsula* monosperma.	*Calyx* and *Corolla* 0. *Anther* ovate, sessile. *Germ* ovate, inserted in a unilateral spadix. *Style* 2-cleft. *Capsule* one-seeded.

1. Marina.

Z. foliis integerrimis, subtrinerviis; caule teretiusculo.	Leaves entire, slightly three-nerved; stem somewhat terete.

Sp. pl. 4. p. 179. Pursh, 1. p. 2. Nutt. 2. p. 201.

Stem terete, flexuous, somewhat jointed, throwing out roots from the joints. *Leaves* long, linear, tender, alternate, varying much in the number and distinctness of its nerves. *Flowers* in two rows, on a linear spadix enclosed in the sheathing base of the leaves. *Anther* oblong, sessile, slightly curved. *Germ* (placed alternately on each side of the anther) oblong. *Style* short. *Stigmas* two, acute. *Capsule* membranaceous, containing one elliptical yellowish seed. Smith, Eng. Bot. No. 467.

This plant I have not myself seen. But it is found on the coasts of the middle states, and is said to grow on all of the shores washed by the Atlantic Ocean, in which it often floats. Found generally in salt water ditches and on muddy shores.

Flowers August—September.

CAULINIA. Willd.

Masculi—*Calyx* 0. *Corolla* 0. *Anthera* sessilis.	*Male Florets*—*Calyx* 0. *Corolla* 0. *Anther* sessile.
Foeminei—*Calyx* 0. *Corolla* 0. *Stylus* filiformis. *Stigma* bifidum. *Capsula* monosperma.	*Female*—*Calyx* 0. *Corolla* 0. *Style* filiform. *Stigma* 2-cleft. *Capsule* one-seeded.

1. Flexilis. Willd.

C. foliis senis, linearibus, apice denticulatis, patentibus.	Leaves verticillate, six in a whorl, linear, denticulate at the summit, expanding.

Sp. pl. 4. p. 182. Pursh, 1. p. 2. Nutt. 2. p. 201.

Root fibrous, perennial. *Stem* one to two feet long, slender, glabrous, always submersed, branching, jointed. *Leaves* linear, verticillate, somewhat diaphanous, slightly denticulate near the summit, the denticulation scarcely visible without a lens. *Flower* solitary, axillary, sessile. *Style* long. *Seed* oblong, yellow.

Grows in ditches and stagnant waters.

Flowers May, July, and August.

CHARA. Gen. Pl. 1397.

Masculi—*Calyx* 0. *Corolla* 0. *Anthera* globosa, sessilis.	*Male Florets*—*Calyx* 0. *Corolla* 0. *Anther* globose, sessile.
Foeminei—*Calyx* 0. *Corolla* 0. *Stylus* 0.	*Female*—*Calyx* 0. *Corolla* 0. *Style* 0.

Stigmata 5. *Bacca* unilocularis, polysperma.	*Stigma* 5. *Berry* 1-celled, many seeded.

1. Vulgaris.

C. caulibus ramulisque basi nudis; ramulis teretibus, articulis foliosis; foliolis oblongis, subulatis; bracteis bacca brevioribus.	Stem and branches naked at base; branches terete, the joints leafy; leaves oblong, subulate; bracteas shorter than the berry.

Sp. pl. 4. p. 183. Pursh, 1. p. 4. Nutt. 2. p. 202.

Stem submersed, branched, rough, brittle and gritty when dry. *Leaves* six to eight, in a whorl as long as the joints and of the same texture, narrow, subulate, slightly channelled on the upper surface, the lower ones simple; the upper bearing on their upper sides rows of erect leaflets, four in a cluster among which the flowers are placed. *Anther* solitary, sitting at the base of the germ. *Germ* ovate, spirally striated, crowned with five little leaves. (*Stigmas?*) *Fruit* with a hard shell. *Seeds* imbedded in a reddish pulp. Smith. Eng. Bot. No. 336.

Grows in ponds and ditches. Canada to Carolina, Pursh. I have not noticed this species in our low country.

Flowers June—July.

2. Capitata. E.

C? caule ramulisque teretibus, glabris; articulis foliolis; fructibus capitatis; bracteis bacca paulo longioribus. E.	Stem and branches terete, glabrous; joints leafy; fruit in heads; bracteas a little longer than the berry.

Stem submersed, floating, terete, glabrous, somewhat diaphanous. *Leaves* in whorls, generally six, terete, very acute. *Flowers?* very numerous, collected in axillary heads, at first sessile, afterwards pedunculate. Bracteal leaves 4? transparent, acute, a little longer than the fruit. *Berry* smooth, yellow.

In this plant, I have not been able to distinguish the anther, nor any spiral striæ around the fruit.

Dr. Schweinitz sent me from Salem, North-Carolina, under the name of Chara Nidifica a plant closely allied to this. It appears to be more lucid and to bear leaves more numerous and more slender. Its habit is similar, and if not a variety of the present plant may form another species in a distinct genus.

The structure of this genus is obscure, and its real affinity still doubtful. Wallroth, who has examined it with great care, considers its fructifications as of two kinds; *Nucules* spirally striated, sessile, surrounded by a diaphanous covering, one-celled, many seeded, indehiscent; globules of a reddish colour accompanying the nucules, opening with three to four valves and containing a mass of minute spiral filaments; that it belongs to the cryptogamic plants, where it will constitute the basis of an order, (Characeæ) next to the Confervæ. Leman, on the other hand, considers it as a dicotyledonous plant allied to the Onagrariæ and Salicariæ, forming with a few other genera a new family under the name of Eleodeæ. Hooker's Flora Scotica, Part 2. p. 108.

Grows in ditches—common in the rice fields on the Ogeechee river.

Flowers April—May.

MONOECIA DIANDRIA.

PODOSTEMUM. Michaux.

Masculi—*Calyx* 0. *Corolla* 0. *Stamina* 2, pedicello affixa.

Foeminei—*Calyx* 0. *Corolla* 0. *Germen* ovatum. *Stigmata* 2, sessilia. *Capsula* 2-locularis, 2-valvis, polysperma.

Male Florets—*Calyx* 0. *Corolla* 0. *Stamens* 2, fixed on a pedicel.

Female—*Calyx* 0. *Corolla* 0. *Germ* ovate. *Stigmas* 2, sessile. *Capsule* 2-celled, two valved, many seeded.

1. CERATOPHYLLUM.

Mich. 2. p. 165. Sp. pl. 4. p. 196. Pursh, 1. p. 3. Nutt. 2. p. 202.

Root composed of short fibres, perennial? *Stem* coriaceous, two to three inches high, floating. *Leaves* alternate, many cleft, the segments somewhat pinnatifid and setaceous. *Flowers* axillary, solitary. The *stamens* supported by a simple pedicel at the base of the germ. *Filaments* two, very short. *Anthers* two-celled. *Germ* ovate, surrounded by a few scales. *Stigmas* two, sessile. *Capsule* striate, two-valved, two-celled. *Seed* oval, numerous.

Grows in the rocky beds of rivers—collected near Augusta, Georgia, by Dr. Leavenworth.

Flowers—July. Pursh.

LEMNA. Gen. Pl. 1400.

Masculi—Calyx 1-phyllus. *Corolla* 0.	*Male Florets—Calyx* 1-leaved. *Corolla* 0.
Foeminei—Calyx 1 phyllus. *Corolla* 0. *Stylus* 1. *Capsula* unilocularis, disperma.	*Female—Calyx* 1-leaved. *Corolla* 0. *Style* 1. *Capsule* 1-celled, two-seeded.

1. Minor.

L. foliis ellipticis, utrinque planis, basi cohærentibus; radicibus solitariis.	Leaves elliptic, flat on both surfaces, cohering at base; roots solitary.

Sp. pl. 4. p. 194. Walt. p. 227. Mich. 2. p. 163. Pursh, 1. p. 22.

A small floating plant, sometimes nearly covering the surface of stagnant waters. Composed generally of one, two, or three leaves (more correctly fronds) laterally cohering yet each forming an entire plant. The margin of these fronds are slightly cleft, and in these fissures their very minute flowers are produced, or buds which form other fronds. *Fronds* somewhat thick, succulent, producing from the centre underneath a solitary root. *Flowers* very rare. *Plant* generally increasing by buds (gemmæ.)

Var.? Cyclostasa.

L. foliis ellipticis, utrinque planis, in circulo cohærentibus; radicibus solitariis.	Leaves elliptic, flat on both surfaces, cohering in a circular arc; roots solitary.

I wish here merely to notice a variety or species of this genus which many years ago I was accustomed to see floating on the surface of the ponds around Beaufort. The fronds were rather larger than those of the L. Minor, and were so attached near one of the foci of the ellipse as to form constantly segments of circles. I do not recollect that I ever saw a circle completed, though I could not discover what stopped or terminated its progress.

Found in ponds, ditches, and stagnant waters, commonly called "Duck Weed," and considered as a favourite food of many species of the wild duck. The insects which are sheltered by these plants, however, are more probably the food which these birds so eagerly seek.

Flowers July—August?

2. Polyrhiza.

L. foliis ellipticis, planis; basi cohærentibus; radicibus fasciculatis.	**Leaves elliptic, flat, cohering at base; roots clustered.**

Sp. pl. 4. p. 195. Pursh, 1. p. 22.

Fronds larger than those of the preceding species, convex and dark purple underneath. *Roots* clustered.

Flowers July—August?

This very obscure genus, whose flowers it is so uncommon to find, has lately been examined with great care by Dr. Hooker of Glasgow. It appears in the Linnæan system to belong to the class Diandria, and its fructification to consist of a single flower composed of an urceolate, membranaceous, monophyllous perianth, from a small opening in the top of which the stigma is protruded, and which bursts irregularly as the stamens become developed. These are two in number, (rarely wanting.) *Anthers* of two rounded lobes, opening nearly vertically each into two valves. *Germen* roundish, compressed, carinated on one side, tapering into a style about its own length, and terminated by a flattish stigma. *Fruit* an *utriculus* transversely oblong, compressed, emarginate at the top on which is the short persistent style. *Seed* one, (or more?) very hard, oval, lying horizontally in the utriculus and fixed by its lower sides. *Embryo* oblong, monocotyledonous, horizontal, central, surrounded by a whitish, fleshy albumen.

Dr. Hooker supported by R. Brown, considers this genus as standing next to Pistia in the natural order of the aroideæ. In order, however, to give it this, its proper location, we must consider the perianth as a spath and the spadix as a point bearing two naked flowers, the upper male and diandrous, the inferior female, and the genus will then stand as it now generally does, among the monoecious plants.

MONOECIA TRIANDRIA.

TYPHA. Gen. Pl. 1401.

Masculi—Amentum cylindricum. *Calyx* obsoletus, triphyllus. *Corolla* 0. *Foeminei—Amentum* cylindricum, infra masculos. *Calyx* 0. *Corolla* 0. *Semen* 1, pedicellatum; pedicello basi pilis longis pappi instar cincto.	*Male Florets—Ament* cylindrical. *Calyx* obsolete, three-leaved. *Corolla* 0. *Female—Ament* cylindrical, below the male. *Calyx* 0. *Corolla* 0. *Seed* 1, pedicellate; the pedicel surrounded at base by long hairs resembling a pappus.

1. Latifolia.

T. foliis linearibus, planis; spica mascula femineaque approximatis, utraque cylindrica.	Leaves linear, flat; male and female spike approximate, both cylindrical.

Sp. pl. 4. p. 197. Walt. p. 227. Pursh, 1. p. 34. Nutt. 2. p. 202.

Root fibrous, perennial. *Culm* about six feet high, terete, glabrous. *Leaves* as tall as the stem, nearly an inch wide, strap-shaped, glabrous, acute, sheathing the stem at base. *Flowers* in long cylindrical masses near the summit of the culm, the upper cylinder staminiferous. *Calyx* composed of three? very minute scales. *Stamens* three, the filaments united? at base. *Anthers* oblong, furrowed. Fertile *florets* beneath, the cylinder separated by a small interval from that bearing sterile florets. *Germ* small. *Style* simple. *Stigma* acute. *Seed* dark brown on a pedicel surrounded at base by short hairs or bristles that seem in this genus to perform the functions of a perianth.

Grows in stagnant water, common on the margin of ponds.

SPARGANIUM. Gen. Pl. 1402.

Masculi—Amentum subrotundum. Calyx 3-phyllus. Corolla 0.

Foeminei—Amentum subrotundum. Calyx 3-phyllus. Corolla 0. Stigma bifidum, vel simplex. Drupa exsucca, 1-sperma.

Male Florets—Ament nearly round. Calyx 3-leaved. Corolla 0.

Female—Ament nearly round. Calyx 3-leaved. Corolla 0. Stigma 2-cleft, or simple. Drupe dry, one-seeded.

1. Americanum? Nutt.

S. foliis inferioribus caulem subæquantibus, basi concavis; culmo ramoso; stigmate simplici, superne attenuato, obliquo, stylum æquante. E.

Lower leaves as long as the stem, concave at base; stem branching; stigma simple, tapering to the summit, oblique, as long as the style.

Nutt. 2. p. 203.
S. Simplex, Pursh, 1. p. 24. Sp. pl. 4. p. 199.

Root perennial, fibrous. *Stem* eighteen to twenty-four inches high, terete, flexuous, glabrous, bearing generally two to three branches. *Leaves* about as long as the stem, strap-shaped, obtuse, glabrous, thick, concave at the base. Heads of flowers globular, sessile. Sterile heads six to nine, fertile two to three, on the branches not so numerous. Of the sterile floret, calyx three-leaved, the leaves obovate, obtuse; filaments twice as long as the calyx; anthers oblong, 2-celled. Of the fertile floret, calyx three-leaved, leaves obovate, embracing the germ and base of the style. *Style* rather longer than the calyx. *Stigma* tapering, rather obtuse, and about as long as the style.

Grows in ditches and in stagnant waters—along the roads in Chatham County, Georgia, not uncommon.

Flowers May—June.

TRIPSACUM. Gen. Pl. 1134.

Masc.—Calyx gluma 2-flora, exteriore masculo, interiore neutro. Corolla, gluma membranacea.

Foem.—Calyx, gluma 2-flora, valva exteriore involucrum simulante, sinubus perforata. Corolla, gluma 2 valvis. Styli 2. Semen 1.

Male Florets—Glume 2-flowered, the exterior sterile, the interior neuter. Glume of the corolla membranaceous.

Female—Calyx a glume 2-flowered, exterior valve resembling an involucrum perforate near the base. Corolla, glume 2-valved. Styles 2. Seed 1.

1. Dactyloides.

T. spicis plurimis, (3—4) aggregatis, superne masculis, inferne foemineis.

Spikes numerous, (3—4) aggregate; florets sterile near the summit, fertile at the base.

Sp. pl. 4. p. 201. Mich. 1. p. 60. Pursh, 1. p. 88. Nutt. 1. p. 85.

Root perennial. *Stem* four to five feet high, glabrous, sometimes compressed and flattened on one edge. *Leaves* large, sometimes three feet long, one and a half inches wide, acutely serrulate, channelled, scabrous on the upper surface with a few hairs along the midrib, glabrous underneath, contracted and villous at the throat. *Flowers* in terminal spikes; spikes three to four, (when four brachiately opposite?) bearing flowers on one (the interior) side. Fertile florets two to four, at the base of the spike, sitting in the excavations of the jointed, scabrous, somewhat triquetrous and flexuous rachis. Sterile florets in two-flowered clusters, two clusters in each cavity in the rachis arranged alternately on each margin, but the articulations approach so near that the flowers appear imbricate. Of the sterile flowers the glume is two valved, the exterior oval, obtuse, somewhat scabrous, cartilaginous, the interior equal, membranaceous; corolla two valved, equal, the valves lanceolate, membranaceous; filaments three; anthers oblong incumbent; nectaries two, carnose, triangular, concave and somewhat two-pointed at the summit. Fertile flowers nestling in recesses in the rachis; common glume two-valved, two-flowered, (the exterior generally abortive;) exterior glume lanceolate, glabrous, cartilaginous, closing very nearly the cavity, perforated near the base? the interior membranaceous; corolla of both florets two-valved, lanceolate, membranaceous, the exterior larger, bearing only the rudiment of a germ and style, the interior with the rudiments of three stamens; germ ovate, glabrous. *Style* thick. *Stigmas* very long, feathered. *Seed* ovate, glabrous.

This species has been to me very rare. I have only seen it growing on a sandy knowl on the margin of the Ogeechee River.

Flowers May—July.

2. Monostachyon. Willd.

T. spica solitaria, terminali, superne mascula, inferne foeminea.	Spike solitary, terminal, florets sterile near the summit, fertile at the base.

Sp. pl. 4. p. 202. Pursh, 2. p. 88. Nutt. 1. p. 85.

Root perennial. *Stem* three to five feet high, sometimes branching, somewhat compressed, glabrous. *Leaves* one to three feet long, one inch wide, finely serrulate, somewhat scabrous, contracted and a little hairy at base, the sheath shorter than the internode. *Spike* terminal, solitary, the base obliquely articulated, bearing the fertile florets distichously; the summit somewhat triquetrous, bearing the sterile florets on two angles, the back flexuous. The structure of the flower very similar to that of the preceding species.

Grows abundantly on some of the sea-islands (Paris Island) along the margin of the salt-water.

Flowers August—October.

3. Cylindricum. Mich.

T. spica solitaria, cylindrica, hermaphrodita; spiculis contiguis in articulos secedentibus.	Spike solitary, cylindrical, hermaphrodite; separating into short joints.

Mich. 2. p. 60. Sp. pl. 4. p. 202. Pursh, 1. p. 88.

With this species of Michaux I am unacquainted, unless, as I suspect, it belongs to an undescribed species of Rottboellia.

Grows on the sand hills of Florida. Mich.

Flowers—

MANISURIS. GEN. PL. 1570.

Masculi: Gluma 2-valvis, valvibus lanceolatis, flexuosis. *Corollæ* tantum rudimentum. Stam. Pist. Nect. plerumque abortientia.	*Male florets:* Glume 2-valved, valves lanceolate, flexuous. Of the *corolla* only a rudiment. *Stamens, styles,* and *nectarium* frequently wanting.
Herm: Gluma bivalvis, valvula exteriore subrotunda, cartilaginea. *Corolla* 2-valvis. *Stamina* 3. *Styli* 2. *Semen* 1.	*Fertile florets:* Glume two-valved, the exterior nearly round, cartilaginous. *Corolla* 2-valved. *Stamens* 3. *Styles* 2. *Seed* 1.

1. GRANULARIS. Lin.

M. florum foemineorum globosorum valvulis calycinis tesselato verrucosis; culmo erecto, ramoso; vaginis hirsutis.	Calyx of the globose fertile floret verrucose, tesselated; stem erect, branching; sheaths hirsute.

Sp. pl. 4. p. 945. Mich. 1. p. 75. Nutt. 1. p. 81.

Root annual? *Stem* erect, two to three feet high, branching, hairy, scabrous particularly near the base. *Leaves* three to eight inches long, two to five lines wide, acute, keeled, hairy, terminating in an open sheath more hairy than the blade, roughened as well as the stem with small glands from which the hairs arise. *Flowers* in small spikes, lateral and terminal. *Spikes* generally fasciculate, each surrounded at base by a sheath, and bearing flowers on one side. Sterile florets (in this species generally neuter) alternating regularly with the fertile along the somewhat flexuous rachis, two-valved, the valves compressed, hairy along the midrib, conspicuous when young almost concealing the fertile florets; corolla two-valved, valves very minute, slender; of the stamen, styles, or nectary, scarcely a vestige. Fertile florets sessile, two-valved, exterior valve orbicular, cartilaginous, entire, (not emarginate at the sides,) corrugated by irregular transverse ridges, the interior oblong, firmly attached to the rachis; corolla two-valved, valves equal, membranaceous; nectary one? leaved, very small; stamens three, exserted; styles two; stigmas feathered. *Seed* one, round, enveloped by the persistent calyx.

It appears to me somewhat doubtful whether this plant and the M. Myurus of India are really congeners.

I am not certain whether this plant is really indigenous, or has been introduced from the West Indies. I have only seen it around Charleston, where, however, it is very common in dry pastures.

Flowers August—October.

CAREX. Gen. Pl. 1407.

Amentum imbricatum. *Masculi: Calyx* squama. *Corolla* 0. *Foeminei: Calyx* squama. *Corolla* monopetala, ventricosa, bidentata, persistens. *Stigmata* 2—3. *Semen* triquetrum, inclusum.	*Ament* imbricated. *Male florets: Calyx* a scale. *Corolla* 0. *Female: Calyx* a scale. *Corolla* 1-petalled, ventricose, 2-toothed, persistent. *Stigmas* 2 or 3. *Seed* triquetrous, inclosed.
§ 1. Stigmatibus 2.	§ 1. Stigmas 2.
* *Spicis dioicis.*	* *Spikes dioecious.*

1. Sterilis.

C. spicis subsenis; fructibus ovatis, compresso triquetris, acuminatis, apice recurvis, bicuspidatis, margine ciliato serratis.	Spikes generally 6; fruit ovate, compressed, triquetrous, acuminate, recurved at the point, two-pointed, ciliate serrate along the margin.

Sp. pl. 4. p. 208. Pursh, 1. p. 34. Muhl. Gram. p. 217. Nutt. 2. p. 204.

Plant dioecious. *Stem* about twelve inches high, obtusely triquetrous, slightly scabrous. *Leaves* linear, hispid along the margin, sheathing the base of the stem. *Sterile spikes* three to five, alternate, approximate, sessile. *Scales* oblong, slightly mucronate, yellowish. *Fertile spikes* five to six, alternate, approximate, oblong, sessile. *Scales* ovate, acute, as long as the corolla, when old yellowish. Willd. The two beaks of the corolla generally straight.

Grows in wet meadows. Pursh. Found as far south as Georgia. Dr. Schweinitz.

Flowers April—May.

*** Spicis androgynis.*	*** Spikes androgynous.*
† Spica unica, floribus superioribus plerumque masculis.	*† Spike one, the upper florets generally sterile.*

2. CEPHALOPHORA.

C. spicis in formam ellipticam aggregatis; fructibus ovatis, compressis, bifidis, marginatis, superne ciliato-serratis.	Spikes collected into an elliptic head; fruit ovate, compressed, 2-cleft, winged, ciliate, serrate near the summit.

Sp. pl. 4. p. 220. Pursh, 1. p. 35. Muhl. Gram. p. 218. Nutt. 2. p. 204.

Stem two to three feet high, triquetrous, scabrous along the margins. *Leaves* linear, very long. *Spikes* four to six, approximate, forming one terminal head; bracteal leaf longer than the spike; scale ovate, mucronate. *Corolla* ovate, compressed, scabrous along the margins, about as long as the scale. *Styles* two. *Seed* ovate.

Grows in the mountainous districts of Carolina and Georgia.

Flowers in May.

3. SQUARROSA.

C. spica simplici, ovali, inferne mascula;	Spike simple, oval, sterile at base; cap-

capsulis imbricatis horizontalibus, rostratis; squamis minimis.	sules imbricate, horizontal, beaked; scales very small.

Sp. pl. 4. p. 215. Nutt. 2. p. 204.
C. Typhina, Mich. 2. p. 169.

Stem about a foot high, triquetrous, slightly scabrous along the margin. *Leaves* very narrow, longer than the stem, as usual in this genus glabrous with finely serrulate or scabrous margins. *Flowers* in a large compact, oval, terminal head, tapering at base. The base covered with sterile florets, with the scales lanceolate acute, slightly coloured. *Stamens* three. Fertile florets crowded, scale linear lanceolate, scarcely as long as the inflated body of the corolla. *Corolla* somewhat globose, terminating abruptly in a long, smooth, two-cleft beak. *Seed* triquetrous. *Style* persistent.

Grows in the mountains of Carolina and Georgia. Dr. Muhlenberg.

Flowers—

4. Willdenovii. Schkuhr.

C. spica simplici; stigmatibus plerumque tribus; fructibus alternis, oblongis, tereti triquetris, scabris, acuminatis; squamis ovatis, acuminatis, infima apice foliacea.	Spike simple; stigmas generally three; fruit alternate, oblong, triquetrous nearly terete, scabrous, acuminate; scales ovate, acuminate, the lowest leafy at the point.

Sp. pl. 4. p. 211. Pursh, 1. p. 39. Muhl. Gram. p. 230. Nutt. 2. p. 204.

Stem about six inches high, triquetrous. *Leaves* linear, longer than the stem, sheathing its base. *Spike* terminal, simple, six sterile florets at the summit, generally six fertile at the base. *Scale* of the sterile floret short, obtuse. *Stamens* three. *Scale* of the fertile floret, ovate, acuminate, (sheathing the floret,) resembling a leaf. *Stigmas* three. *Capsule* lanceolate, acuminate, triquetrous, at base globose. Muhl.

Varies with a sterile spike, linear, terminal, somewhat distinct, fertile florets, three to four, alternate, sessile. Muhl.

The only specimen I possess of this species belongs to this variety.

Grows in dry woods, Muhl. In Carolina, Dr. Schweinitz.

Flowers May—June.

†† *Spicis pluribus, floribus superioribus masculis.*	†† *Spikes numerous, the upper flowers sterile.*

5. Bromoides.

C. spiculis oblongis, alternis, remotiusculis, sessilibus; capsulis oblongis, acuminatis, rostratis, bicuspidatis; squamis, oblongis mucronatis.	Spikes oblong, alternate, remote, nearly sessile; capsules oblong, acuminate, beaked, two-pointed, scales oblong, acuminate.

Sp. pl. 4. p. 258. Pursh, 1. p. 35. Nutt. 2. p. 204.

Root perennial. *Stem* slender, triquetrous, about a foot high, scabrous along the angles. *Leaves* linear, as long or longer than the stem, slightly scabrous along the margins. *Flowers* in numerous, somewhat linear spikes, the upper ones crowded, the lower rather distant. (Sterile spike linear, inserted beneath the terminal female spike, caducous. Willd.) The fertile florets numerous. Bracteal leaf at the base of each spike, small, ovate, with a setaceous point, the lowest one much longer than the spike, the upper ones shorter. *Scales* of the fertile florets oblong lanceolate, mucronate, membranaceous, shorter than the corolla. *Corolla* ovate, slightly acuminate, bifid at the summit, nerved. *Stigmas* two. *Seed* oval, compressed.

Grows in damp soils—near Ashepoo along the road side.

Flowers in April.

6. Retroflexa. Muhl.

C. spica androgyna, composita; spiculis subquaternis, remotiusculis, superne masculis; fructibus ovatis, bidentatis, margine glabris, reflexo patentibus; squamis oblongo-lanceolatis.	Spike androgynous, compound; spikes generally four, somewhat distant, sterile at the summit; fruit ovate, two-toothed, glabrous on the margin, reflexed; scales oblong, lanceolate.

Sp. pl. 4. p. 235. Pursh, 1. p. 35. Muhl. Gram. p. 219. Nutt. 2. p. 204.

Stem very slender, nearly twelve inches high, slightly angled, leafy near the base. *Leaves* linear, almost filiform, scabrous along the margin. *Spikes* five to six, few-flowered, sterile at the summit. *Scales* ovate, acute, keeled, shorter than the corolla. *Fruit* ovate, acuminate, glabrous, when mature diverging.

Grows in dry soils. In the upper districts of Carolina.

Flowers in May.

7. Stipata?

C. spiculis plurimis (12—20), compositis, aggregatis; fructibus demum patentibus, ovatis, acuminatis, convexo-planis, nervosis, ciliato-serratis; culmo triquetro, marginibus sub scabris. E.	Spikes numerous (12—20), compound, aggregate; fruit finally expanding, ovate, acuminate, plano-convex, nerved, ciliate, serrate; stem triquetrous, with the angles somewhat scabrous.

Sp. pl. 4. p. 233. Pursh, 1. p. 35. Nutt. 2. p. 204.

Stem one to two feet high, thick, succulent, very tender, very glabrous, excepting the margins, which, particularly towards the summit, are slightly scabrous. *Leaves* as long as the stem, (longer when young,) strap-shaped, channelled, nerved, slightly serrulate, sheathing the base of the stem. *Flowers* in numerous, compound spikelets, so closely aggregated as to form a continued and somewhat compact spike, appressed when young, expanding when mature. Male florets terminating each spikelet, scale ovate, membranaceous, mucronate. Scale of the female floret similar. *Corolla* ovate, tapering to the two-cleft summit, serrulate, nerved. *Stigmas* two. *Seed* obtusely triquetrous.

Grows in swamps—very common.

Flowers April.

8. Muhlenbergii.

C. spiculis plurimis, ovatis, alternis, approximatis; fructibus subrotundo-ovatis,	Spikes numerous, ovate, alternate, approximate; fruit ovate, nearly round, winged,

marginatis, compressis, bidentatis, ciliato serratis; squamis mucronatis.	**compressed, two-toothed, ciliate, serrate; scales mucronate.**

Sp. pl. 4. p. 231. Pursh, 1. p. 36. Nutt. 2. p. 204.

Root perennial. *Stem* about two feet high, triquetrous, slightly scabrous near the summit. *Leaves* longer than the stem, linear, scabrous along the margin, sheathing the stem nearly to the middle. *Spikes* numerous, the upper ones forming a compact cylindrical spike, the lower distinct. Bracteal leaves setaceous, much longer than the spikes. *Scales* ovate, mucronate, longer than the corolla. *Corolla* ovate acuminate, compressed, slightly winged, serrulate along the margin, two-cleft at the summit. *Seed* nearly round, compressed.

Grows in damp soils.

Flowers April.

9. MULTIFLORA.

C. spica oblonga, decomposita, spiculis ovatis, androgynis, superne masculis; fructibus ovatis, acuminatis, bicuspidatis; squamis ovatis, mucronatis; bracteis foliaceis, filiformibus.	**Spike oblong, compound; spikelets ovate, androgynous, sterile at the summit; fruit ovate, acuminate, two pointed; scales ovate, mucronate; bracteas leafy, filiform.**

Sp. pl. 4. p. 243. Pursh, 1. p. 36. Muhl. Gram. p. 222. Nutt. 2. p. 204.

Stem twelve to eighteen inches high, triquetrous, scabrous, particularly along the margins. *Leaves* narrow, somewhat rigid and scabrous, longer than the stem. *Spike* compound. *Spikelets* numerous, approximate, forming a somewhat compact, cylindrical, mass of florets. *Scales* of the fertile florets lanceolate, slightly mucronate, somewhat chestnut coloured, with a green midrib. *Fruit* ovate, compressed, scabrous along the margin, when mature diverging and nearly as long as the scale.

Grows in wet lands. In the upper and mountainous districts of Carolina.

Flowers May.

10. Sparganioides.

C. spiculis multifloris, suboctonis, ovatis, subapproximatis; fructibus ovatis, compressis, marginatis, bifidis, margine ciliato-serratis, horizontalibus.

Spikes many flowered, generally eight, ovate, approximate; fruit ovate, compressed, winged, two-cleft, ciliate serrate along the margin, horizontal.

Sp. pl. 4. p. 237. Pursh, 1. p. 36. Nutt. 2. p. 204.

Stem twelve to eighteen inches high, nearly terete. *Leaves* numerous, longer than the stem, striate, scabrous along the margins, two to three lines wide. *Flowers* in numerous sessile spikes, (six to eight,) the upper ones approximating. Bracteal leaf setaceous, rather longer than the spikes. *Scales* ovate, mucronate, scarcely as long as the corolla. *Corolla* ovate, slightly acuminate, compressed, horizontally expanding, finely serrate, slightly two-cleft. *Seed* orbicular, compressed.

Grows in damp soils, in the upper districts of Carolina and Georgia.

Flowers—

11. Rosea. Schkuhr.

C. spiculis subquaternis, remotis; fructibus ovatis, acuminatis, bidentatis, margine ciliato serratis, horizontalibus, squamis ovatis, obtusis; bractea foliacea ad basin spiculæ inferioris.

Spikes generally 4, remote; fruit ovate, acuminate, 2-toothed, ciliate serrate along the margin, horizontal; scales ovate, obtuse; bractea leaflike at the base of the lower spike.

Sp. pl. 4. p. 237. Pursh, 1. p. 36. Muhl. Gram. p. 223. Nutt. 2. p. 204.

Stem about twelve inches high, slender, slightly angled. *Leaves* linear, longer than the stem, a little scabrous along the margin. *Spikes* four to six, small, sessile, the lower somewhat distant. The lowest bracteal leaf setaceous, nearly two inches long. *Scales* ovate, rather acute, nearly as long as the corolla. *Fruit* when mature diverging.

Nearly allied to C. Retroflexa, perhaps only a variety.

Grows in shaded woods, Pursh. In the upper districts of Carolina.

Flowers—

††† *Spicis pluribus, floribus superioribus foemineis.*	††† *Spikes numerous, the upper flowers fertile.*

12. LEPORINA.

C. spiculis tribus subrotundo-ellipticis, alternis, congestis; fructibus ellipticis, compressis, acuminatis, ore integris.	Spikes three, nearly round, elliptic, alternate, clustered; fruit elliptic, compressed, acuminate, with the mouth entire.

Sp. pl. 4. p. 229. Mich. 2. p. 170. Pursh, 1. p. 36. Nutt. 2. p. 204.

Spikes androgynous, alternate, distinct, sessile, turgid and obtusely ovate, without bracteas, green, sometimes tinged with yellow. *Capsules* compactly imbricate, convex on one side. flat on the other, acuminate. Mich.

This species I have not seen.

Grows from Canada to Carolina. Mich.

Flowers—

13. SCIRPOIDES.

C. spiculis subquaternis, approximatis, ellipticis; fructibus ovatis, bidentatis, compressis, margine ciliato serratis, erectis; squamis ellipticis obtusis.	Spikes generally 4, approximate, elliptic; fruit ovate, 2-toothed, compressed, ciliate serrate along the margin, erect; scales elliptic, obtuse.

Sp. pl. 4. p. 237. Pursh, 1. p. 37. Nutt. 2. p. 204.

Stem eight to twelve inches high, slender, slightly triquetrous, but at base when surrounded by the sheaths of the leaves appearing cylindrical, slightly scabrous towards the summit along the margins. *Leaves* very narrow, scarcely a line wide, nearly as long as the stem, sheathing its base, the lowest very short. *Spikes* generally four to six, squarrose, sessile, bracteas subulate, small, the lowest sometimes longer than the spike. Male *florets* numerous, forming a long spike at the base of the terminal spike, solitary or wanting at the base of the lower spikes; calyx a scale, membranaceous, very acute, with the midrib green. Scale of the female *floret* similar to that of the male. *Corolla* ovate, acuminate, serrate along the margin, two-cleft at the summit, with the teeth erect, expanding horizontally. *Stigmas* two.

Grows in swamps.

Flowers April.

14. LAGOPODIOIDES.

C. spiculis duodenis, alternis, ellipticis, obtusis, approximatis; fructibus ovato-lanceolatis, marginatis, bicuspidatis; bractea foliacea, longissima, ad basin spicæ ultimæ.

Spikes numerous, alternate, elliptic, obtuse, approximate; fruit ovate lanceolate, winged, two-pointed; bractea leaflike, very long, at the base of the lower spike.

Sp. pl. 4. p. 230. Pursh, 1. p. 37. Muhl. Gram. p. 226. Nutt. 2. p. 204.

Stem erect, one to two feet high, obtusely triquetrous, scabrous near the summit. *Leaves* strap-shaped, longer than the stem, sheathing its base. *Spikes* very numerous, ten to twenty, ovate, approximate, forming one large, oblong head. *Florets* in each spike very numerous, imbricate, corolla ovate lanceolate, distinctly two-pointed, nerved, much longer than the ovate scale. Lower bracteal leaf setaceous, as long as the head.

Grows in swamps and wet meadows, in the mountainous districts of Carolina. Dr. Schweinitz.

Flowers—

15. FOENEA. Muhlenberg?

C. spiculis pluribus, inferioribus distinctis, compositis, superiori-

Spikes numerous, the lower distinct, compound, the upper apbus sub approximatis, ovatis; fructibus ovatis, acuminatis, bidentatis, squama paulo longioribus; bractea setacea longa ad basin spicæ ultimæ. E.

proximate, ovate; fruit ovate, acuminate, two-toothed, longer than the scale; bracteal leaf at the base of the lowest spike setaceous, long.

Muhl. Gram. p. 227.

Stem one to two feet high, obtusely triquetrous, scabrous near the summit. *Leaves* strap-shaped, as long as the stem, scabrous along the margins, sheathing the base of the stem for some distance from the ground. *Spikes* numerous, (eight to ten,) the lower separate and compound, the upper forming a continued mass of flowers. *Florets* numerous, imbricate. *Corolla* ovate, acuminate, very finely serrulate, very slightly two-cleft at the summit, larger than the ovate lanceolate scale. The lower bracteal leaf subulate, two to three inches long, the upper ones very small.

For specimens of this plant, and for my knowledge of it as a southern species, I am indebted to Dr. Schweinitz.

Grows in the upper districts of North and South-Carolina.

Flowers—

16. OVALIS.

C. spiculis subsenis, subrotundo - ellipticis, alternis, sub approximatis, inferne masculis; fructibus ovatis, marginatis, bidentatis, ciliato-serratis.

Spikes generally 6, elliptic, nearly round, alternate, approximate, florets at base sterile; fruit ovate, margined, two-toothed. ciliate serrate.

Sp. pl. 4. p. 229. Pursh, 1. p. 37. Nutt. 2. p. 204.

Stem about twelve inches high, triquetrous, with the angles acute, scabrous. *Leaves* narrow, about as long as the stem. *Spikes* approximate, oval, *Scales* ovate lanceolate, acute, as long as the corolla. *Corolla* oblong, acuminate, with the mouth entire. Good. Trans. Lin. Soc. 2. p. 148.

With this species I have no acquaintance. It is mentioned by Dr. Schweinitz, in his letters, as one of our southern species.

Flowers—

17. SCOPARIA.

C. spiculis subquinis, alternis, ellipticis, obtusis, subapproximatis; fructibus ovato-lanceolatis, marginatis, bicuspidatis; bracteis oblongis, mucronatis.	Spikes generally 5, alternate, elliptic, obtuse, approximate; fruit ovate lanceolate, winged, two-pointed; bracteas oblong, mucronate.

Sp. pl. 4. p. 230. Pursh, 1. p. 37. Nutt. 2. p. 204.

Stem one to two feet high, obtusely triquetrous. *Leaves* linear, channelled, with the margins and keel scabrous towards the summit, closely sheathing the stem at base. *Spikes* five to eight, approximate, distinct, lanceolate, sessile, all surrounded at base with a few sterile florets. Lower bracteal leaves longer than the spikes, the upper shorter. *Scales* ovate, membranaceous, rather acute, white with the midrib green, about as long as the corolla. *Corolla* ovate, compressed, tapering at the summit, slightly two-cleft, acutely serrulate. *Stigmas* two, long.

This species, perhaps the most common in our low country, appears to vary with spikes lanceolate, nearly round, (perhaps from age,) and sometimes obovate. It appears almost to be intermediate between the C. Scoparia and Straminea of the northern states.

Grows every where in damp soils.

Flowers April—June.

18. FESTUCACEA?

C. spiculis suboctonis, subapproximatis, alternis, cylindraceis; fructibus subrotundo-ovatis, rostratis, bidentatis, margine ciliato-serratis, squama lanceolata mucronata majoribus.	Spikes generally 8, approximate, alternate, cylindrical; fruit ovate, nearly round, beaked, two-toothed, ciliate serrate along the margin, larger than the lanceolate, mucronate scale.

Sp. pl. 4. p. 242. Pursh, 1. p. 38. Nutt. 2. p. 204.

Root perennial. *Stem* twelve to eighteen inches high, very slender, triquetrous, scabrous on the margins. *Leaves* narrow, about as long as the stem. *Flowers* in linear spikes, generally approximate, sometimes patent, with one or two male florets at the summit, and some frequently intermingled with the fertile. Bracteal leaves very small. *Scales* oblong lanceolate, very acute, excepting the midrib membranaceous. *Stamens* three. *Corolla* of the fertile floret at first shorter than the scale, increasing with age, becoming long, tapering, nerved, very slightly serrulate along the margins, somewhat contracted at the summit of the seed, two-cleft at the summit. *Stigmas* two, very long. *Seed* oval, compressed.

The male florets in this species appear to grow very irregularly; they are sometimes on the summit of the spikes, and sometimes occupy near the whole of one of the middle spikes. A specimen resembling this very much was sent me by Dr. Muhlenberg as the C. Paniculata, but the C. Paniculata of Europe is certainly distinct.

Grows in swamps and damp soils.

Flowers March—April; one of our earliest species.

**** Spicis sexu distinctis; spica mascula solitaria.*	**** Sterile and fertile spikes distinct; sterile spike solitary.*

19. Cæspitosa. Lin.

C. spicis foemineis, cylindraceis, obtusis, subternis, distantibus, infima brevissime pedunculata; fructibus ovatis, obtusis, squama oblonga obtusa majoribus; foliis patulis.	Fertile spikes cylindrical, obtuse, generally 3, distant, the lowest on a very short peduncle; fruit ovate, obtuse, larger than the oblong, obtuse scale; leaves expanding.

Sp. pl. 4. p. 287. Muhl. Gram. p. 264. Nutt. 2. p. 204.

Stem slender, triquetrous, striate, twelve to eighteen inches high. *Leaves* linear, acute, scabrous along the margin, as long as the stem. Sterile spikes one to two; fertile alternate, nearly sessile, long, slender, three to four, sometimes bearing sterile florets at the summit. *Scale* linear lanceolate, dark coloured with a green midrib. *Capsule* oblong. Bracteal leaves long.

Grows in boggy, turfy soils. Carolina, Dr. Schweinitz.

Flowers—

20. Crinita.

C. spicis masculis geminis, foemineis qua-	Sterile spikes 2, fertile 4, distant, pedun-

ternis, distantibus, pedunculatis, cylindraceis, pendulis; fructibus subrotundo - ellipticis, ventricosis, brevissime rostellatis, ore integris, squama oblonga aristata, brevioribus.

culate, cylindrical, pendulous; fruit elliptic, nearly round, ventricose, with a short beak and entire mouth, shorter than the oblong, awned scale.

Sp. pl. 4. p. 300. Pursh, 1. p. 38. Nutt. 2. p. 204.

Stem about two feet high, acutely triquetrous, concave on the sides so as to appear slightly winged, finely serrulate along the margins. *Leaves* longer than the stem, the lower ones sheathing, channelled, nerved, very glabrous, not even scabrous on the edges. Male *spikes* with us generally solitary, slender, pendulous, the scales lanceolate, mucronate. Female *spikes* generally three, not very distant, pendulous, on short peduncles merely enveloped, not inclosed, each terminated by a number of male florets; scales ovate, with a long subulate point. *Corolla* ovate, compressed, terminating in a simple point, shorter than the scale. *Stigmas* two.

Grows in river swamps.

Flowers April—May.

21. ACUTA.

C. spicis masculis binis, ternisve, foemineis subquaternis, sub pedunculatis, subnutantibus, cylindraceis, remotis; fructibus oblongis brevissime rostellatis, ore integro, squamam oblongam acutam sub æquantibus.

Sterile spikes 2 or 3, fertile generally 4, on short peduncles, somewhat nodding, cylindrical, remote; fruit oblong, with a very short, entire mouth, nearly the length of the oblong, rather acute scale.

Sp. pl. 4. p. 304. Pursh, 1. p. 38. Muhl. Gram. p.

Stem about two feet high, triquetrous, scabrous. *Leaves* narrow, keeled, scabrous along the margin, the lower sheathing the base of the stem, the upper sessile. Sterile *spikes* one to three, cylindrical; the fertile about three, the upper sessile, the lowest on a short peduncle, and the summit of each for nearly one third of its length frequently occcupied with sterile florets.

Corolla ovate, nearly entire at the summit, scarcely longer than the dark brown scale.

Grows in bogs and turfy soils. In the upper districts of Carolina.

Flowers April—May.

§ 2. STIGMATIBUS 3.	§ 2. STIGMAS 3.
* *Spica terminali mascula, cæteris androgynis.*	* *Terminal spike sterile, the rest androgynous.*

22. TRICEPS. Mich.

C. spicis sub quaternis, approximatis, ellipticis, sessilibus; fructibus ovatis, compressis, glabris, squamam ovatam acuminatam sub æquantibus.	Spikes generally 4, approximate, elliptic, sessile; fruit ovate, compressed, glabrous, about as long as the ovate acuminate scale.

Mich. 2. p. 170.

Stem twelve to eighteen inches high, acutely triquetrous, scabrous along the margins, slender. *Leaves* linear, slightly scabrous on the edges, scarcely longer than the stem, a little pubescent near the sheaths. *Spikes* generally four, three larger, approximate, whence the name given by Michaux, the fourth smaller, and a little remote, all sessile, or on very short peduncles, the base of the upper spike surrounded with male florets. *Scales* ovate, slightly acuminate. *Corolla* of the female florets ovate, somewhat compressed, not pointed at first, shorter than the scale, when old quite as long. *Stigmas* three. *Seeds* triquetrous.

Nearly allied to C. Virescens, from which it appears to differ by its cylindrical or elliptic spikes and glabrous corolla.

Grows in damp soils.

Flowers April—May.

23. HIRSUTA.

C. spica androgyna oblonga, obovata, inferne mascula; foemineis remotiusculis, sub-	Terminal spike androgynous, oblong, obovate with sterile florets at base; fertile spikes

ternis, subsessilibus, oblongis; fructibus ovatis obtusissimis, obtuse triquetris; foliis vaginisque hirsutis.

generally three, nearly sessile, oblong; fruit ovate, very obtuse, obtusely triquetrous; leaves and sheath hirsute.

Sp. pl. 4. p. 252. Pursh, 1. p. 40. Nutt. 2. p. 204.

Stem about a foot high, slender, triquetrous, pubescent near the summit. *Leaves* narrow, rather longer than the stem, somewhat hairy. *Spikes* three to four, the terminal sterile at base, the rest generally fertile, the lower somewhat cylindrical on short peduncles. *Scales* of the fertile florets ovate mucronate, scarcely as long as the mature fruit. *Corolla* ovate, nerved.

In specimens of this plant collected near St. Mary's, by Dr. Baldwin, the leaves are less hairy, and the lateral spikes more nearly sessile, than in those I possess from Pennsylvania.

Grows near St. Mary's, Georgia. Dr. Baldwin.

Flowers—

24. Buxbaumii. Wahlenberg.

C. spica androgyna pedunculata, obovata, inferne mascula, foemineis subternis, remotis sub pedunculatis; fructibus ellipticis, triquetris, obtusis, obsolete bidentatis, squamam oblongam mucronatam subæquantibus.

Androgynous spike pedunculate, obovate, bearing sterile florets at base, fertile florets three, remote, on short peduncles; fruit elliptic, triquetrous, obtuse, slightly 2-toothed, as long as the oblong, mucronate scale.

Sp. pl. 4. p. 252. Pursh, 1. p. 40. Nutt. 2. p. 204.

Stem one to two feet high, slender, triquetrous, glabrous, somewhat scabrous near the summit. *Leaves* narrow, long, with the margins scabrous. *Spikes* three or four, the terminal spike with the lower half, or sometimes more than half, bearing sterile flowers, the lower spikes generally fertile, erect, sessile or on very short peduncles. *Scales* of both florets in my specimens lanceolate, very dark brown, almost black, with a green midrib, very acute, rather longer than the fruit. *Corolla* ovate, compressed, smooth, somewhat triquetrous, nearly white, terminating in a very short, two-cleft summit. Lower bractea longer than the spike, the upper ones shorter.

Grows in swamps and bogs in the upper districts of Carolina. Dr. Schweinitz.

Flowers July—August. Pursh.

25. TRICHOCARPA.

C. spicis androgynis tribus, foemineis binis pedunculatis, erectis, cylindraceis, remotis; fructibus ovatis, acuminatis, bicuspidatis, pilosis, squama ovato-lanceolata aristata longioribus.

Spikes 3 androgynous, 2 female, erect, cylindrical, pedunculate, distant; fruit ovate, acuminate, two-pointed, hairy, longer than the ovate lanceolate, awned scale.

Pursh, 1. p. 40. Nutt. 2. p. 204.

Stem two to three feet high, acutely triquetrous, serrulate along the margins. *Leaves* four to seven lines wide, rather longer than the stem, channelled, very acute, scabrous on the upper surface, the margins and midrib serrulate, sheathing at base. *Flowers* in distinct spikes, the sterile superior, one to five, alternate, terete, sessile, one to two inches long; fertile spikes two to three, remote, nearly sessile, erect, cylindrical, the fruit expanding. Of the sterile florets the bracteal leaf is setaceous or subulate, the lower longer than the spike, the scale lanceolate, rather obtuse, the midrib rufous. *Stamens* three. Of the fertile spike the bracteal leaves resemble the root leaves, are very long, and have little or no sheath. *Scale* lanceolate, slightly mucronate. *Corolla* ovate, inflated, nerved, acuminate, pubescent, a little longer than the scale. *Stigmas* three. *Seed* obtusely triquetrous.

Our plant is larger than the specimens sent me from Pennsylvania by Dr. Muhlenberg, and the fruit less hairy. Does it belong to this section?

Grows in deep swamps; to me rare; found in fresh marshes along the Ogeechee river.

Flowers in April.

*** Spicis sexu distinctis; mascula solitaria, foemineis subsessilibus, vel incluse pedunculatis.*

*** Fertile and sterile spikes distinct; sterile spike one; fertile spikes nearly sessile, or with peduncles sheathed.*

26. Varia.

C. spicis foemineis subternis, subapproximatis, sessilibus, subglobosis; fructibus sub globoso-triquetris, rostratis, bidentatis, pubescentibus, squama oblonga brevioribus; culmo erecto.

Fertile spikes generally three, approximate, sessile, nearly globose; fruit triquetrous, somewhat globose, beaked, two-toothed, pubescent, shorter than the oblong scale; stem erect.

Sp. pl. 4. p. 259. Pursh, 1. p. 40. Nutt. 2. p. 205.

Stem slender, six to eight inches high, scabrous along the angles. *Leaves* generally longer than the stem, narrow, subulate, scabrous along the margins. *Flowers* in three or four small spikes, the upper sterile, the lower fertile, sometimes approximate, sometimes distinct. Sterile spike oblong lanceolate, the scales lanceolate, with ferruginous sides. Fertile spikes compact, the scales ovate lanceolate, acute, rather shorter than the mature fruit, tinged with brown. *Corolla* globose, pubescent, with a short acuminate point.

Grows in shaded rich soils.

Flowers April—May.

27. Dasycarpa. Muhl.

C. spica mascula parva, foemineis subternis, subapproximatis; fructibus ovato triquetris, villoso hispidis, squama acuminata longioribus. E.

Sterile spike small, fertile generally three, approximate; fruit ovate, somewhat triquetrous, villous and hispid, longer than the acuminate scale.

Muhl. Gram. p. 236.

Stem twelve to eighteen inches high, triquetrous, glabrous. *Leaves* very narrow, lanceolate, linear, glabrous, all excepting the bracteas shorter than the stem. Sterile spike very small, terminal, scales lanceolate. Fertile spikes generally three, near together, the upper sessile, the lower on short peduncles. Bracteas resembling the leaves, longer than the stem, embracing the base of the peduncle. *Scale* ovate acuminate. *Corolla* obtusely triquetrous, somewhat ovate, with the mouth entire, nerved, very villous, somewhat hoary. *Stigmas* three. *Style* triquetrous.

This species of Carex, which I sent to Dr. Muhlenberg many years ago, I have never found but once; I then met with it in dry pastures, on Paris' Island. Its corolla is more villous than that of any species with which I am acquainted. The spikes and fruit larger than those of C. Virescens.

Flowers in May.

28. MARGINATA. Muhl.

C. spicis foemineis subgeminis, approximatis, subglobosis, subsessilibus; fructibus globosis, tomentosis, bidentatis, squama oblongo-ovata majoribus; foliis radicalibus, culmo longioribus.

Fertile spikes generally two, approximate, subglobose, nearly sessile; fruit globose, tomentose, two-toothed, larger than the oblong obovate scale; leaves radical, longer than the stem.

Sp. pl. 4. p. 261. Pursh, 1. p. 40. Nutt. 2. p. 205.

Plant scarcely a foot long, growing in tufts. *Stem* slender, triquetrous, scabrous along the margins. *Leaves* linear, almost subulate, nearly as long as the stem, slightly scabrous along the margins. *Spikes* crowded at the summit, sterile spike terminal, cylindrical, six to eight lines long, scales ovate, chestnut coloured with a white margin, the lower obtuse, the upper somewhat acute. Fertile spikes at the base of the sterile, two to three each, bearing three to six flowers, scales ovate, acute, sometimes mucronate, nearly as long as the fruit.

Grows on dry hills and rocks. Pursh.

Flowers April and May.

29. VESTITA. Willd.

C. spica mascula lanceolata, foemineis geminis, ovatis, sessilibus, approximatis, fructibus ovatis, rostratis, ore obliquis, pubescentibus, squamam

Sterile spike lanceolate, the fertile two, ovate, sessile, approximate; fruit ovate, beaked, with an oblique summit, pubescent, as long as the ovate acute ovatam acutam subæquantibus.

scale.

Sp. pl. 4. p. 263. Pursh, 1. p. 41. Nutt. 2. p. 205.

Stem about two feet high, acutely triquetrous, scabrous along the margins. *Leaves* narrow, strap-shaped, about as long as the stem. Sterile spike terminal, narrow, lanceolate, almost cylindrical, scales ovate, dusky, with a membranaceous margin. Fertile spikes two, cylindrical, nearly sessile, just below the base of the sterile. *Corolla* ovate, attenuate at the summit, slightly two-cleft, pubescent, almost tomentose. *Scales* ovate, the lower sometimes mucronate, about as long as the corolla. Bracteas scarcely longer than the spikes.

Grows in wet meadows. Pursh.

Flowers May—June.

30. TENTACULATA.

C. spicis foemineis tribus, ovatis, sessilibus, horizontalibus, sub approximatis, confertis; bracteis longissime foliaceis; corollis ovatis, ventricosis, nervosis, longissime rostratis, ore bidentatis, squama parvula ovata mucronata longioribus.

Fertile spikes three, ovate, nearly sessile, horizontal, approximate, crowded; bracteas very long, leaflike; corolla ovate, ventricose, nerved, with a long beak, two-toothed at the summit, longer than the small, ovate, mucronate scale.

Sp. pl. 4. p. 266. Pursh, 1. p. 41. Muhl. Gram. p. 239. Nutt. 2. p. 205.

C. Rostrata? Mich. 2. p. 173.

Stem two feet high, triquetrous. *Leaves* very long, lanceolate, linear, nerved, scabrous along the margins, sheathing the base of the stem. Sterile spike long, solitary, scale linear lanceolate, mucronate. Fertile spikes three, approximate, the two upper sessile, the third with a short included peduncle. Bracteal leaves much longer than the stem; scale very much dilated at base, mucronate; corolla ventricose, ovate, terminating in a long beak, very slightly two-cleft, nerved, but the nerves less conspicuous than those of the two preceding species, very compactly crowded on the spike.

Grows in wet soils. I have not seen it in the low country.

Flowers April and May.

30. Lupulina.

C. spicis foemineis tribus, pedunculatis, oblongis, approximatis; bracteis longissimis, foliaceis; fructibus ovatis, ventricosis, nervosis, longissime conico-rostratis, ore bicuspidatis, squama ovata mucronata multoties longioribus.

Fertile spikes three, oblong, approximate, with inclosed peduncles; bracteas very long, leaflike; fruit ovate, ventricose, nerved, with long, conical, 2-pointed beaks, much longer than the ovate mucronate scale.

Sp. pl. 4. p. 266. Pursh, 1. p. 41. Muhl. Gram. p. 241. Nutt. 2. p. 205.

Stem two to three feet high, triquetrous. *Leaves* lanceolate linear, with the margin and midrib scabrous. Sterile spike solitary, sometimes two, scales linear lanceolate, very acute, mucronate. Fertile spikes two to three, approximate, ovate, sometimes globose, on short peduncles, the lower enclosed in a short sheath, scale lanceolate, acuminate, with the point somewhat hispid. *Corolla* ovate, inflated, distinctly nerved, terminating in a long, two-cleft beak, much longer than the scale. *Stigmas* three.

Grows in swamps and wet soils.

Flowers April—May.

31. Gigantea. Rudge.

C. spicis foemineis 3—4, remotis, cylindricis, erectis, incluse pedunculatis; bracteis foliaceis, longissimis, glaberrimis; corollis ovatis, conico rostratis, bifidis, nervosis, ventricosis, squama ovato-lanceolata longioribus.

Fertile spikes 3—4, remote, cylindrical, erect, with inclosed peduncles; bracteas long, leafy, glabrous; corolla ovate, with a conical two-cleft beak, nerved, ventricose, longer than the ovate lanceolate scale.

Trans. Lin. Soc. 7. p. 99. t. 10. f. 2. Muhl. Gram. p. 240.

Stem one to two feet high, triquetrous, glabrous. *Leaves* longer than the stem, strap-shaped, slightly channelled, scarcely scabrous along the margins, sheathing at base. Male spike terminal, scales ovate, acute. Female spikes three, sometimes with a few male florets at the summit of each, distant, half or more of the long peduncle inclosed. *Corolla* ovate, acute, nerved, two-cleft at the mouth, twice as long as the ovate, very acute scale, somewhat inflated when mature. *Stigmas* three. *Seed* triquetrous.

Grows in bogs and swamps; very common.

Flowers April—May.

33. FOLLICULATA.

C. spicis foemineis sub quaternis, erectis, exerte pedunculatis, paucifloris; fructibus ovatis, ventricosis, nervosis, rostratis, squama ovata longioribus. E.

Fertile spikes generally 4, erect, pedunculate, few flowered; fruit ovate, ventricose, nerved, beaked, longer than the ovate scale.

Sp. pl. 4. p. 281. Mich. 2. p. 171. Pursh, 1. p. 42. Nutt. 2. p. 205.

Stem about two feet high, erect, triquetrous, with the margins near the summit, scabrous. *Leaves* longer than the stem, strap-shaped, scabrous, slightly channelled, with short sheaths at base. Male spike solitary, terminal, scales lanceolate, acute. Female spikes two to four, rarely solitary, erect on short exserted peduncles, the lower one, when there are four, remote. *Florets* six to twenty, expanding horizontally. *Corolla* ovate, rostrate, slightly two-cleft at the mouth, nerved, conspicuously inflated, longer than the narrow, ovate, slightly acuminate scale. *Stigmas* three. *Seed* triquetrous.

A few male florets generally occur at the summit of each fertile spike.

Grows in swamps.

Flowers April—May.

**** Spicis foemineis pedunculatis.*

**** Fertile spikes on peduncles.*

34. PLANTAGINEA.

C. spicis pedunculatis, foemineis quaternis

Spikes pedunculate, fertile four, distant;

distantibus; fructibus ellipticis, triquetris, pedicellatis, glabris, squama ovata cuspidata (trimum), brevioribus; bracteis vaginatis apice subfoliaceis; foliis radicalibus, lanceolatis, nervosis.

fruit elliptic, triquetrous, pedicellate, glabrous, at first shorter than the ovate, cuspidate scale; bracteas sheathing at the summit, leaflike; leaves radical, lanceolate, nerved.

Sp. pl. 4. p. 257. Mich. 2. p. 173. Pursh, 1. p. 42. Nutt. 2. p. 205.

Stem twelve to eighteen inches high, glabrous. *Leaves* lanceolate linear, assuming the lanceolate form more than usual among grasses, nerved, glabrous, thin, very slightly serrulate along the margins. Sterile spike one, terminal, fertile generally about four, distant, erect, linear, the fruit not crowded, the lower on long peduncles, the peduncles of the upper scarcely longer than the sheaths. Bracteal leaves resembling those of the root, all sheathing for at least half an inch the base of the peduncle. *Scales* of the sterile floret lanceolate, acute, not mucronate; of the fertile ovate mucronate. *Corolla* oblong, somewhat oblique, acute, slightly notched at the summit, very distinctly nerved, and when mature, in my specimens always longer than the scale.

Grows in rich shaded soils.

Flowers April.

35. CASTANEA. E.

C. spica mascula solitaria; foemineis tribus, subrotundis, infima longissime pedunculata, cernua, superioribus sessilibus; corolla triquetro ovata, glabra, puncticulosa, squama ovata, obtusa multo longiore.

Sterile spike solitary; fertile spikes three, nearly round, the lowest on a long peduncle, nodding, the upper sessile; corolla triquetrous ovate, glabrous, slightly dotted, much longer than the ovate, obtuse scale.

C. Fulva? Muhl. Gram. p. 246.

Root perennial, stoloniferous. *Stem* about two feet high, triquetrous, slender, purple at base. *Leaves* linear, nerved, scabrous along the margin, shorter than the stem. Sterile spike about an inch long, much shorter than its three-nerved bracteal leaf; scales oblong, obtuse, brown with a white margin. Fertile spikes three, (nine to sixteen flowered,) the upper bearing on the summit a few sterile flowers, sessile as well as the middle spike, the lower cernuous on a long peduncle. *Corolla* inflated, ovate, obtusely triquetrous, distinctly nerved, terminating in a long beak, two-cleft at the summit, somewhat coriaceous, lucid, and transversely striate, resembling under a lens the surface of fine morocco leather. *Seed* triquetrous.

This species appears to me to have no resemblance to the European C. Fulva, at least as that plant is figured in Trans. Lin. Soc. 2. t. 20. f. 6. I have, therefore, changed its name. Its close and strong affinity is to C. Folliculata, from which, however, it is by its calyx and corolla sufficiently distinct. It is also a coarser grass.

Grows in wet pine barrens. Chatham county, Georgia.

Flowers in April.

36. ANCEPS.

C. spicis foemineis tribus, remotis, inferioribus pedunculatis; fructibus ovatis, nervosis, ore membranaceis, squama oblonga mucronata? longioribus.	Fertile spikes three, distant, the lower pedunculate; fruit ovate, nerved, membranaceous at the mouth, longer than the oblong, mucronate? scale.

Sp. pl. 4. p. 278. Pursh, 1. p. 42. Nutt. 2. p. 205.

Stem triquetrous, compressed, almost ancipitous. Bracteal leaves sheathing. The upper fertile spike sessile, the rest on peduncles. Fertile *florets* alternate, rather remote. Willd.

I quote the observations of Willdenow on this species, because to me it has been obscure. The plants returned to me by Dr. Muhlenberg as C. Anceps, are too nearly allied to C. Flexuosa. Dr. Muhlenberg has himself referred C. Anceps to C. Plantaginea.

Grows in wet fields on the sides of ditches. Pursh.

Flowers April—May.

37. CONOIDEA.

C. spicis foemineis binis, remotis, suprema subsessili, infima	Fertile spikes two, distant, the upper nearly sessile, the lower on

longe pedunculata; fructibus oblongo-conicis, obtusis, squamam aristatam æquantibus.

a long peduncle; fruit oblong conic, obtuse, as long as the awned scale.

Sp. pl. 4. p. 280. Pursh, 1. p. 43. Muhl. Gram. p. 248. Nutt. 2. p.

I have been accustomed, perhaps incorrectly, to refer the following plant to this species.

Stem about twelve inches high, triquetrous. *Leaves* narrow, somewhat subulate, those of the root shorter than the stem, all scabrous along the margin. Sterile spike terminal, small, scales lanceolate. Fertile spikes two to three, the upper ones (when two) approximate, on short peduncles, the lower distant on a peduncle one to two inches long, all small, somewhat cylindrical, but not compact. *Corolla* lanceolate, tapering at each extremity, triquetrous, somewhat oblique, nerved, the mouth nearly entire, longer than the ovate lanceolate scale. The lower bractea leaflike, longer than the stem.

Grows in wet soils.

Flowers in April.

38. GRANULARIS.

C. spicis foemineis tribus remotis, binis inferioribus pedunculatis; fructibus globoso-ovatis, nervosis, ventricosis, brevissime rostellatis, ore obsolete emarginato, squama ovato-lanceolata longioribus.

Fertile spikes three, distant, the two lower pedunculate; fruit ovate, globular, nerved, ventricose, with a very short beak, the mouth slightly emarginate, longer than the ovate lanceolate scale.

Sp. pl. 4. p. 279. Pursh, 1. p. 43. Muhl. Gram. p. 247.

Stem about twelve inches high, glaucous, when old decumbent. *Leaves* narrow, somewhat glaucous. *Spike* of sterile florets solitary, sometimes, though very rarely, there is a second with fertile florets intermingled. *Spikes* of fertile florets two or three, the lowest on a peduncle, the upper nearly sessile. The peduncles all sheathed at base. *Scale* ovate acuminate. *Corolla* nearly round, distinctly nerved, with the mouth entire and recurved.

This species I have not seen in this country. In specimens sent me from Pennsylvania by Dr. Muhlenberg, some pubescence is visible on the leaf and sometimes on the corolla.

Grows in barren meadows and woods, from Canada to Carolina. Pursh. Flowers in May.

39. TETANICA.

C. spicis foemineis binis, remotis, suprema subsessili, infima longe pedunculata; fructibus ovatis, utrinque acutis apice recurvis, ore integris, squama obtusa ovata longioribus.

Fertile spikes two, distant, the upper nearly sessile, the lowest on a long peduncle; fruit ovate, acute at each end, recurved at the summit, entire at the mouth, longer than the scale.

Pursh, 1. p. 43. Muhl. Gram. p. 250. Nutt. 2. p. 205.
C. Striatula? Mich. 2. p. 173.

Stem twelve to eighteen inches high, slender, triquetrous, glabrous. *Leaves* linear, acute, much shorter than the stem. *Spikes* few, small; sterile one terminal, fertile generally two, very distant, one nearly sessile towards the summit of the stem, the lower pedunculate, erect. *Scales* of the sterile florets obtuse; of the fertile, in my specimens, acute. *Corolla* triquetrous, acute at each end, distinctly nerved, somewhat oblique.

Grows in Carolina. Mich. Sent to me from North-Carolina by Dr. Schweinitz.

Flowers—

40. LAXIFLORA. La Marck?

C. spicis foemineis tribus, distantibus, 6—8 floris, infima remote pedunculata; fructibus oblongis ventricosis, obtusis, squama ovata mucronata majoribus.

Fertile spikes three, distant, 6—8 flowered, the lowest distant, peduncled; fruit oblong ventricose, obtuse, larger than the ovate, mucronate scale.

Sp. pl. 4. p. 281. Pursh, 1. p. 43. Muhl. Gram. p. 251. Nutt. 2. p. 205.

Stem one to two feet high, triquetrous, with the margin scabrous. *Leaves* narrow lanceolate, nerved, very acute, somewhat scabrous along the margins. Sterile spike terminal, slender. Fertile spikes two to three, the lowest on a peduncle one to two inches long, the upper ones shorter. *Spikes* few flowered, the flowers unusually distant (for this genus.) *Corolla* lanceolate, tapering at each extremity, oblique, obtusely triquetrons, nerved, the mouth nearly entire, about as long as the ovate, acuminate, mucronate scale. Bracteal leaves all much longer than the stem.

Grows in damp, shaded soils. Carolina, Dr. Schweinitz. Allied to C. Conoidea?

Flowers April—May.

41. HYSTERICINA. Muhl.

C. spica mascula solitaria, squamis ovato-oblongis sub mucronatis, foemineis cylindraceis 2—4, infima longe pedunculata; fructibus ovatis, multinervibus, rostratis, ore bifidis squama oblonga cristata longioribus.

Sterile spike solitary, scales ovate, oblong, slightly mucronate, fertile spikes cylindrical 2—4, the lowest on a long peduncle; fruit ovate, many nerved, beaked, the mouth two-cleft, longer than the oblong awned scale.

Sp. pl. 4. p. 282. Pursh, 1. p. 43. Muhl. Gram. p. 252. Nutt. 2. p. 205.

Stem about two feet high, triquetrous, scabrous along the angles. *Leaves* long, narrow, scabrous, sheathing the base of the stem. Sterile spike terminal, cylindrical, one to two inches long; scales ovate lanceolate, acute, with a hispid, setaceous point. Fertile spikes three to four, cylindrical, pedunculate, the lower peduncle very long, scabrous, corolla ovate, attenuate into a long, two-cleft beak; scale ovate, small, slightly emarginate, terminated with a hispid, setaceous bristle (mucro) nearly as long as the corolla. Bracteal leaves all longer than the stem.

Grows in bogs and wet soils. Carolina, Dr. Schweinitz.

Flowers April—May.

42. FLEXUOSA.

C. spicis foemineis subquaternis, remotis,

Fertile spikes generally four, distant, fili-

filiformibus, pedunculis cernuis; fructibus distantibus, alternis, oblongis, rostratis, bifidis, squama ovata mucronata, duplo longioribus.	form, peduncles nodding; fruit distant, alternate, oblong, beaked, two-cleft, twice as long as the ovate mucronate scale.

Sp. pl. 4. p. 297. Pursh, 1. p. 43. Nutt. 2. p. 205.
C. Debilis, Mich. 2. p. 172.

Stem about twelve inches high, slender, triquetrous, glabrous, with the edges towards the summit slightly glabrous. *Leaves* linear, rather longer than the stem, scabrous along the margins, slightly channelled. Male spike solitary, terminal, slender; scales lanceolate, rather obtuse; stamens three. Female spikes four, remote, pendulous, with the base of the peduncles enclosed, the lower peduncle four to six inches long, one half or more inclosed, the upper gradually shortening and the sheaths comparatively shorter; scales lanceolate, rather obtuse; corolla ovate, striate, when old, somewhat oblique, scarcely rostrate, nor are the flowers very distant. *Stigmas* three.
Grows in damp soils.
Flowers April—May.

43. DIGITALIS. Willd.

C. spicis foemineis subternis, remotis, filiformibus, pedunculatis, cernuis; fructibus ellipticis obtusis, squama oblongo lanceolata longioribus.	Fertile spikes generally three, distant, filiform, pedunculate, nodding; fruit elliptic, obtuse, longer than the oblong lanceolate scale.

Sp. pl. 4. p. 298. Pursh, 1. p. 44. Muhl. Gram. p. 255. Nutt. 2. p. 205.

Stem nearly twelve inches high, triquetrous, glabrous. *Leaves* rather broad, acute, longer than the stem. Sterile spike linear, with lanceolate scales. Fertile spikes two to three, pedunculate, erect, filiform, about ten-flowered, flowers distant. *Fruit* elliptic, ventricose, compressed, triquetrous, very obtuse. *Scales* oblong lanceolate, shorter than the fruit. *Bracteas* sheathing, broad, leaflike, longer than the stem. Willd.

This species which I have never seen, I add on the high authority of Dr. Schweinitz.

Grows in bogs and wet meadows. Muhl.
Flowers May.

44. Miliacea.

C. spicis foemineis tribus, filiformibus, summa subsessili, reliquis pedunculatis; fructibus ovatis, triquetris, breve rostratis, ore integris, squama oblonga emarginata aristata longioribus.

Fertile spikes three, filiform, the upper nearly sessile, the rest pedunculate; fruit ovate, triquetrous, with a short beak and entire mouth, longer than the oblong emarginate awned scale.

Sp. pl. 4. p. 290. Pursh, 1. p. 44. Muhl. Gram. p. 257. Nutt. 2. p. 205.

Stem slender, triquetrous, scabrous along the angles. *Leaves* linear, acute, scabrous along the margins. *Spikes* slender, sterile, one terminal; fertile two to three, the lower on a long peduncle, pendulous; the upper sometimes sessile, when on peduncles pendulous also. Bracteal leaf to the lower spike longer than the stem, to the upper small. *Scales* of the fertile florets emarginate with a mucronate point. *Corolla* ovate, with only the lateral nerves, the summit acute and nearly entire, longer than the scale.

Grows in wet meadows, Canada to Carolina. Pursh.
Flowers—

45. Furcata. E.

C. spicis foemineis tribus, pedunculatis, pendulis, cylindricis; fructibus ovato-lanceolatis, rostratis, furcatis, squama subulata, primum brevioribus demum longioribus.

Fertile spikes three, pedunculate, pendulous, cylindrical; fruit ovate lanceolate, beaked, forked, at first shorter, finally longer than the subulate scale.

C. Pseudo Cyperus? Pursh, 1. p. 44. Walt. p.

Stem about two feet high, thick, acutely triquetrous, very scabrous along the margins near the summit. *Leaves* longer than the stem, channelled, three to four lines wide, scabrous along the edges, the long bracteal leaves scabrous also along the midrib, nerved, with small nodosities between the nerves which become conspicuous as the leaf begins to wither. Male spikes long, slender, scales linear lanceolate, acute. Female spikes generally three, pendulous, cylindrical, on peduncles generally increasing in length as they descend, inclosed at base by the amplexicaule bracteal leaf. *Corolla* ovate, rostrate, nerved, conspicuously forked with the divisions disposed to become revolute. *Scale* small, with a long, subulate, serrulate point, at first longer than the corolla, afterwards shorter. *Stigmas* three. *Seed* triquetrous.

There is to this species sometimes a fourth female spike somewhat remote; this when it occurs generally has the base of the peduncle inclosed.

This species has usually been considered in the southern states at least, as the C. Pseudo-Cyperus, but though nearly allied it does not agree entirely with the character of that species: the summit is much more pointed and divided than the figure in English Botany, No. 242, and it is, I think, unquestionably indigenous.

Grows in deep swamps.
Flowers April.

46. GLAUCESCENS. E.

C. spicis foemineis 3—4, cylindricis, pedunculatis, demum pendulis; corollis ovatis, compressis, enervibus, glaucis, squamam emarginatam, mucronatam subæquantibus; foliis glaucescentibus. E.

Fertile spikes 3—4, cylindrical, pedunculate, finally pendulous; corolla ovate, compressed, nerved, indistinct, glaucous, as long as the emarginate, mucronate scale; leaves somewhat glaucous.

Stem about two feet high, triquetrous, glabrous, the margins near the summit slightly roughened. *Leaves* narrow, channelled, acutely serrulate, the lower conspicuously glaucous, shorter than the stem. Sterile spike cylindrical, solitary, pedunculate, scales ovate, emarginate, mucronate, ferruginous with the midrib green. Fertile spikes on slender peduncles one to three inches long, not enclosed at base, becoming pendulous as the fruit matures, scales ovate, deeply emarginate, mucronate, ferruginous with the midrib green. *Corolla* ovate, with a very short two-cleft mouth, very glaucous, the nerves excepting the two lateral ones indistinct, much longer than the blade of the scales and nearly as long as the mucronate point. *Seed* triquetrous.

Grows around pine barren ponds.
Flowers April—May.

***** Spicis sexu distinctis; masculis pluribus.*

***** Spikes distinct; sterile spikes numerous.*

47. Pellita.

C. spicis masculis geminis, foemineis geminis cylindraceis, erectis, remotis, superiore sessili; fructibus ovatis, bifidis, pilosis, squama oblonga aristata brevioribus.

Sterile spikes two; fertile two, cylindrical, erect, remote, the upper sessile; fruit ovate, two-cleft, hairy, shorter than the oblong awned scale.

Sp. pl. 4. p. 302. Pursh, 1. p. 44. Muhl. Gram. p. 258. Nutt. 2. p. 205.
C. Striata? Mich. 2. p. 174.

Stem eighteen to twenty-four inches high, triquetrous. *Leaves* linear, long, scabrous along the margins. Sterile spikes two to four, the upper pedunculate, the lower sessile, scale ovate, obtuse, ferruginous with a darker midrib. Fertile spikes two to three, the upper sessile, the lower on peduncles, erect; scales lanceolate, mucronate. *Corolla* ovate, very hispid, acuminate, the point short, two-cleft.
Grows in damp woods, Pursh. In Carolina, Mich.
Flowers—

48. Riparia.

C. spicis masculis quaternis; foemineis tribus, erectis, pedunculatis, apice masculis; fructibus ovato-oblongis, nervosis, bifurcatis, squama mucronata paulo brevioribus. E.

Sterile spikes four; fertile three, erect, on peduncles, bearing sterile flowers at the summit; fruit ovate oblong, nerved, 2-forked, a little shorter than the mucronate scale.

Sp. pl. 4. p. 306. Muhl. Gram. p. 259.

Stem about two feet high, triquetrous, smooth, scabrous on the edges towards the summit. *Leaves* longer than the stem, strap-shaped, the lower forming short sheaths at base, the upper nearly amplexicaule, scabrous along the margin. *Spikes* dioecious and androgynous. Male spikes generally four, each about two inches long; scales tapering to an acute point, chaffy, scarious. Androg: spikes two to three inches long, erect, on moderately long peduncles, the lower one enclosed at base in a short sheath, the two upper merely enveloped. *Scale* ovate, tapering to an acute point, at first shorter than the corolla, when mature rather exceeding it in length. *Corolla* ovate, slightly acuminate, nerved but not very conspicuously, two-cleft at the summit. *Stigmas* three, long, glandular. *Seed* triquetrous.

Grows in the fresh marshes and rice field ditches. Ogeechee.

Flowers March—April.

49. Verrucosa. Muhl.?

C. spicis masculis tribus, foemineis plurimis (4—6), erectis, cylindraceis, apice masculis; corollis compressis, ovatis, brevissime bifidis, squama ovata, subemarginata, mucronata brevioribus. E.

Sterile spikes three, fertile numerous (4—6), erect, cylindrical, bearing sterile flowers at the summit; corolla compressed, ovate, slightly two-cleft, shorter than the ovate, somewhat emarginate, mucronate scale.

Muhl. Gram. p. 261.

Stem two to three feet high, triquetrous, glabrous. *Leaves* very long, acute, nerved, somewhat glaucous, sheathing the base of the stem. Sterile spikes generally three, the terminal one two to three inches long, cylindrical, very obtuse, scale ovate mucronate, dark brown; fertile spikes three to six, two to three inches long, all terminated with sterile flowers. Lower peduncle about one and a half inches long, sheathed at base; the upper shorter, nearly surrounded by the long bracteal leaves. *Scale* ovate, obtuse, sometimes emarginate, mucronate, dark brown. *Corolla* ovate, obscurely nerved, glaucous, with a very short, slightly cleft mouth, about as long as the scale exclusive of the mucronate point. *Seed* triquetrous.

Collected many years ago along the road between Stono and Combahee Ferry; probably at the latter place.

Flowers April.

50. BULLATA?

C. spicis masculis tribus, foemineis binis, cylindraceis, pedunculatis, erectis; fructibus ovato-globosis, rostratis, bifurcatis, rostris hispidis, squama lanceolata majoribus.	Sterile spikes three; fertile two, cylindrical, pedunculate, erect; fruit ovate, globose, beaked, two-forked, (the beaks hispid,) larger than the lanceolate scale.

Sp. pl. 4. p. 309. Pursh, 1. p. 45. Nutt. 2. p. 295.

Stem about two feet high, slender, acutely triquetrous, slightly scabrous on the margins. *Leaves* narrow, longer than the stem, somewhat channelled, scabrous along the edges, with a very short sheath at base. Male spikes frequently but two, slender, scales lanceolate, rather obtuse, the summit and margins membranaceous. Female spikes two, a little distant, erect, cylindrical, on short peduncles merely enveloped at base. *Scales* lanceolate, acute. *Corolla* ovate, almost globular at base with an attenuated two-cleft beak, nerved, the nerves pubescent near the summit. *Stigmas* three. *Seed* triquetrous.

This plant differs but not materially from the description of Willdenow. I have had no opportunity of comparing specimens.

Grows in bay galls and ditches. Near Beverly, Chatham county, Geo.

Flowers April.

SCLERIA. GEN. PL. 1408.

Masculi—Calicis gluma 2, s. 6 valvis, multiflora. *Corollæ* glumæ muticæ.	*Sterile florets—Calyx* 2, or 6 valved, many flowered. Valves of the corolla unawned.
Foeminei—Calicis gluma 2, s. 6 valvis, uniflora. *Corolla* 0. *Stigmata* 1—3. *Nux* colorata subglobosa.	*Fertile florets—Calyx* 2, or 6 valved, 1-flowered. *Corolla* 0. *Stigmas* 1—3. *Nut* generally globular.
* *Nuce lævi.*	* *Nut smooth.*

1. OLIGANTHA?

S. culmo gracili, triquetro, glabro; foliis angustis, nervosis, scabriusculis; spicis 2—3 subterminalibus sessilibus, 1? laterali, remota, longe pedunculata; nuce nitidissima. E.

Stem slender, triquetrous, glabrous; leaves narrow, nerved, slightly scabrous; spikes 2—3 near the summit of the stem, sessile, one lateral remote, on a long peduncle; nut very smooth and polished.

Mich. 2. p. 167?

Stem twelve to eighteen inches high, slender, triquetrous, nerved, a little scabrous along the margins and slightly pubescent near the summit. *Leaves* linear, nerved, acute, slightly scabrous on the upper surface, a little pubescent near the base and on the sheath, shorter than the stem. *Flowers* in small fascicles or spikes, two sometimes three, sessile near the summit, one on a long peduncle (two to three inches) near the middle of the stem, each containing one fertile and two to three? sterile florets at its base. Bracteal leaves resembling those of the stem, the two upper ones much longer than the spikes, the lower sheathing the base of the peduncle. *Scales* of the sterile florets ovate, acute, very slightly pubescent; of the fertile longer, very acute, glabrous. *Seed* one, white, very smooth, and polished.

It appears to me probable that this species is the S. Oligantha of Michaux, for the upper spikes are distinct, which in S. Pauciflora are fasciculate. His silence respecting the seed must, however, leave this uncertain, unless his own herbarium can resolve the doubt. This, however, is not the S. Pauciflora of Pursh, nor S. No. 4, of Muhl. Gram. p. 268, under which a reference is made to S. Oligantha, Mich. as both of those plants have rugose seeds.

Grows in wet pastures and pine barrens. St. John's, Dr. Trescott.
Flowers May.

2. GRACILIS. E.

S. culmo filiformi, triquetro, foliisque glabris; spiculis paucis, paucifloris, fasciculatis, subterminalibus; glumis glabris; nuce lævi, nitido. E.

Stem filiform, triquetrous, and with the leaves glabrous; spikes few, few flowered, fasciculate, nearly terminal; glumes glabrous; nut smooth, polished.

Plant about a foot high, very slender, and in my specimens entirely smooth. *Leaves* linear, very narrow, shorter than the stem. Bracteal leaf resembling those of the root, theee to four inches long. *Spikes* two or three, clustered together at the summit of the stem, each bearing one fertile floret. *Scales* ovate lanceolate, slightly mucronate, ferruginous, glabrous. *Nut* white, showing in some specimens slight longitudinal ribs.

Collected by Dr. Baldwin near St. Mary's, Georgia.

Flowers—

3. TRIGLOMERATA? Mich.

S. caule triquetro, scabrato; foliis lanceolato-linearibus, canaliculatis, scabriusculis parce pilosis; spicis lateralibus terminalibusque fasciculatis; glumis ciliatis; nuce lævi. E.	Stem acutely triquetrous, rough; leaves lanceolate linear, channelled, somewhat rough, a little hairy; spikes lateral and terminal, fasciculate; glumes fringed; nut smooth.

Sp. pl. 4. p. 319. Mich. 2. p. 168. Muhl. Gram. p. 260. Nutt. 2. p. 205.

Stem about two feet high, very acutely triquetrous, striate, scabrous, and a little hairy near the summit. *Leaves* about twelve inches long, three to four lines wide, somewhat scabrous, hairy along the angles, sheathing the stem at base. *Flowers* generally in one terminal and one lateral cluster each composed of three or four aggregated spikes, the lateral cluster usually pendulous. Bracteal leaves much longer than the spikes, pendulous. *Calyx* of both florets three-valved, valves ovate, carinate, mucronate, somewhat unequal, conspicuously fringed. Female florets two or three in each spike. *Style* one. *Stigmas* three. *Seed* white, polished, showing some slight inequalities on its surface.

This is the most common of our species. I have always doubted whether it is the S. Triglomerata of Michaux; but it agrees better with that than with any other of his species. It is not the S. Triglomerata of Pursh.

Grows in dry soils.

Flowers April—October.

** *Nuce corrugato.*	** *Nut wrinkled.*

4. PAUCIFLORA. Muhl.

S. caule triquetro,	Stem triquetrous and

foliisque linearibus glabris; spicis lateralibus terminalibusque paucifloris, lateralibus pendulis, terminalibus aggregatis; glumis glabris; nucibus exasperatis. E.

with the linear leaves glabrous; spikes lateral and terminal, few flowered, the lateral pendulous, the terminal clustered; glumes glabrous; seed roughened.

Sp. pl. 4. p. 318. Pursh, 1. p. 46. Muhl. Gram. p. 267. Nutt. 2. p. 205.

Stem twelve to eighteen inches high, slender, acutely triquetrous, glabrous. *Leaves* linear, glabrous, shorter than the stem, scabrous along the margin, sheathing at base. *Spikes* lateral and terminal, the lateral commonly two, on long, slender, pendulous peduncles, the lowest frequently bearing only sterile florets. Bracteal leaves slightly fringed, longer than the spikes. *Glumes* of all the florets ovate, carinate, slightly acuminate, glabrous, ferruginous. *Stamens* three. *Stigmas* three. *Nut* globular, roughened with elevated points and transverse irregular lines, mucronate at the summit.

I have a variety from Florida in which the stem appears more rigid, and the nut not so conspicuously roughened.

Grows in damp pastures and pine barrens.

Flowers May; probably through the whole summer.

5. Ciliata. Mich.

S. caule erecto, nudiusculo, glabro; foliis linearibus, canaliculatis, supra pubescentibus; spicis terminalibus fasciculatis; bracteis glumisque ciliatis; nucibus exasperatis.

Stem erect, nearly naked, glabrous; leaves linear, channelled, pubescent on the upper surface; spikes terminal, clustered; bracteas and glumes ciliate; seeds roughened.

Mich. 2. p. 167. Sp. pl. 4. p. 318. Pursh, 1. p. 46.

Stem one to two feet high, erect, glabrous, and in my specimens having only a solitary leaf sheathing the base. *Leaves* linear, channelled, a little hairy on the upper surface. *Spikes* terminal, clustered. Bracteal leaves much longer than the spikes, conspicuously fringed. *Glumes* ovate, acuminate, unequal, ferruginous, the exterior slightly fringed. *Nut* globular, roughened with small tubercles, very slightly mucronate.

Grows in damp soils.

Flowers May—June.

6. HIRTELLA. Mich.

S. caule erecto, gracili, foliisque bracteisque hirsutulis; spicis terminalibus, axillaribusque; glumis pubescentibus; nucibus transversim corrugatis. E.	Stem erect, slender, and with the leaves and bracteas slightly hirsute; spikes terminal and axillary; glumes pubescent; seed transversely wrinkled.

Mich. 2. p. 168. Sp. pl. 4. p. 318. Pursh, 1. p. 46. Nutt. 2. p. 205.

Stem about eighteen inches high, triquetrous, hairy, particularly along the margins. *Leaves* narrow, channelled, shorter than the stem, hairy. *Spikes* two to three, near the summits of the stem, distinct, not fasciculated, with sometimes a small axillary spike near the base of the stem. Bracteal leaves much longer than the spikes, hairy and conspicuously fringed. *Glumes* ovate, acuminate, unequal, pubescent. *Nuts* globular, roughened chiefly by irregular transverse elevated lines.

Grows in damp soils.

Flowers in the summer.

Var. STRIGOSA.

Under this head I will place a plant nearly allied in its characters, but less hairy excepting along the angles of the stem and the margins and midrib of the leaves, its spikes also are larger and more numerous, its glumes fringed, of a light chestnut colour, and the nut rather roughened by distinct tubercles than by transverse lines.

Collected by Dr. Baldwin on the confines of Georgia and Florida; perhaps a distinct species.

7. RETICULATA. Mich.

S. culmo foliisque glabris; vaginis alatis; spicis sparsis axillaribus terminalibusque;	Stem and leaves glabrous; sheaths winged; spikes scattered, axillary and terminal;

glumis bracteisque glabris; nuce reticulato, foveolis consperso. E.	glumes and bracteas glabrous; seed reticulate, dotted.

Mich. 2. p. 167. Sp. pl. 4. p. 314. Pursh, 1. p. 45. Muhl. Gram. p. 266. Nutt. 2. p. 205.

Stem one to two feet high, glabrous, acutely triquetrous. *Leaves* shorter than the stem, narrow, glabrous, sheathing at base; the sheaths winged. *Spikes* numerous, axillary and terminal on long peduncles, racemose, sometimes somewhat paniculate, slender, the terminal ones nearly naked. *Glumes* lanceolate, acute, glabrous. *Stamens* two? *Seed* globose, rugose, rather with impressions than elevations.

Grows in damp pastures.

Flowers July—August.

8. VERTICILLATA. Muhl.

S. culmo simplicissimo, triquetro foliisque glabris; spica glomerata, nuda, glomerulis alternis, distantibus; glumis glabris; nucibus globosis, mucronatis, transversim rugoso-verrucosis.	Stem simple, triquetrous, and with the leaves glabrous; spike clustered, naked, the clusters alternate, distant; glumes glabrous; seed globose, mucronate, transversely wrinkled.

Sp. pl. 4. p. 317. Pursh, 1. p. 45. Muhl. Gram. p. 266.

Stem about a foot high, very slender, triquetrous, glabrous. *Leaves* filiform, shorter than the stem, glabrous, sheathing, with a few hairs sprinkled along the sheath. *Flowers* in distinct sessile clusters towards the summit of the stem. *Spikes* and flowers both small. Bracteal leaves scarcely longer than the spikes. *Glume* ovate, acuminate. *Keel* glabrous. *Nut* globose, small, tuberculate, distinctly mucronate.

Grows in damp soils.

Flowers July—August.

9. INTERRUPTA.

S. culmo simplicissimo, triquetro, foliisque	Stem simple, triquetrous, and with the

pubescentibus; spica glomerata, nuda, glomerulis alternis, distantibus; glumis setosis; nucibus globosis, mucronatis, transversim rugoso-verrucosis.	leaves pubescent; spike clustered, naked, the clusters alternate, distant; glumes bristly; seed globose, mucronate, transversely wrinkled.

Sp. pl. 4. p. 317. Mich. 2. p. 168. Pursh, 1. p. 45.

This species I have not seen, but the description of Michaux evidently applies here.

Grows in damp meadows from Carolina to Florida.

Flowers—

COMPTONIA. Gen. Pl. 1764.

Masculi—Amentum. Calyx squama. *Corolla* dipetala. *Filamenta* bifurca.	*Sterile florets—Ament. Calyx* a scale. *Corolla* 2-petalled. *Filaments* forked.
Foeminei—Amentum. Calyx squama. *Corolla* hexapetala. *Styli* 2. *Nux* ovata.	*Fertile florets—Ament. Calyx* a scale. *Corolla* 6-petalled. *Styles* 2. *Nut* ovate.

1. ASPLENIFOLIA.

Sp. pl. 4. p. 320. Mich. 2. p. 203. Pursh, 2. p. 635. Nutt. 2. p. 206.

A small shrub two to four feet high. *Leaves* long, linear-lanceolate, alternate, sessile, irregularly pinnatifid after the manner of a fern, lobes obtuse. *Flowers* in oval, sessile, axillary spikes (aments.) Of the sterile florets, calyx reniform, acuminate, one-flowered; corolla and filaments shorter than the calyx; filaments three, divided; anthers six. Of the fertile florets, corolla six-leaved, much longer than the calyx. *Nut* oval, without valves.

The whole plant when bruised is aromatic.

In specimens which I have from Pennsylvania the stem and leaves are slightly pubescent, and the lobes of the leaves somewhat remote. In specimens from the mountains of Carolina, the leaves on the upper surface are more or less hairy, on the under surface tomentose, the lobes nearly orbicular, overlaying one another; the branches tomentose. The scales so deeply fringed as to make the young aments almost resemble a ball of hair.

Grows in the mountains of Carolina and Georgia.
Flowers April.

TRAGIA. Gen. Pl. 1410.

Masculi—*Calyx* 3-partitus. *Corolla* 0.
Foeminei—*Calyx* 5-partitus. *Corolla* 0. *Stylus* 3-fidus. *Capsula* 3-cocca, 3-locularis. *Semina* solitaria.

Sterile florets—*Calyx* 3-parted. *Corolla* 0.
Fertile florets—*Calyx* 5-parted. *Corolla* 0. *Style* 3-cleft. *Capsule* 3-seeded, 3-celled. *Seed* solitary.

1. Linearifolia.

T. caule suberecto, subramoso, pubescente; foliis linearibus, pubescentibus; spicis longioribus. E.

Stem generally erect, sparingly branched, pubescent; leaves linear, pubescent; spikes long.

Stem twelve to eighteen inches high, pubescent, almost tomentose. *Leaves* alternate, sessile, one to two inches long, linear, pubescent, in my specimens entire. *Spikes* axillary, numerous near the summit of the stem, longer generally than in our other species of Tragia. Sterile florets very small. *Capsules* hirsute.

I am not certain whether this plant is the T. Urens var. Linearis of Mich. it appears to me, however, to be very distinct from that species.

Grows in the southern districts of Georgia.
Flowers—

2. Urens. Lin.

T. foliis lanceolatis, sessilibus, obtusis, apice subdentatis; caule erecto, ramoso pubescentibus.

Leaves lanceolate, sessile, obtuse, slightly toothed near the summit; stem erect, branching, pubescent.

Sp. pl. 4. p. 325. Walt. p. 229. Mich. 2. p. 175. Pursh, 2. p. 604. Nutt. 2. p. 206.
T. Innocua, Walt. p. 229.

Stem about twelve inches high, branching, villous. *Leaves* alternate, sessile, lanceolate, dentate, pubescent, somewhat hoary underneath. *Flowers* in small spikes generally terminal. Of the sterile floret, calyx four-parted, the segments lanceolate, pubescent; filaments two to four, short, thick; anthers two to four, united by pairs. Fertile floret on a short peduncle, calyx six-parted, the segments small; corolla none. *Style* very short. *Stigma* three-cleft. *Capsule* hispid, composed of three united, globular, two-valved cells each one-seeded. *Seed* spherical.

Varies with leaves oval, or more or less lanceolate.

Grows in dry soils.

Flowers May—August.

3. URTICIFOLIA. Mich.

T. foliis cordatis, ovatis, serratis; caule erecto, hirsutissimo.	Leaves cordate, ovate, serrate; stem erect, very hirsute.

Mich. 2. p. 176. Sp. pl. 4. p. 324. Pursh, 2. p. 604. Nutt. 2. p. 206.
T. Mercurialis, Walt. p. 229.

Stem twelve to eighteen inches high, erect, very hirsute. *Leaves* alternate, on short petioles, cordate ovate, deeply serrate, very hirsute particularly along the veins. *Spikes* opposite the leaves. Sterile florets numerous towards the summit. Fertile on short peduncles near the base of each spike. *Capsules* very hirsute.

Grows in dry soils. Common in the middle country of Carolina and Georgia.

Flowers May—August.

ERIOCAULON. GEN. PL. 132.

Flores in capitulo terminali aggregati.	*Flowers collected in a terminal head.*
Masculi in disco. *Calyx* squama. *Corolla* 4-partita, laciniis duabus interioribus fere ad summitatem co-	*Sterile florets* in the disk. *Calyx* a scale. *Corolla* 4-parted, the two interior segments cohering almost to the

hærentibus. *Stamina* 4—6?	summit. *Stamens* 4—6?
Foeminei in peripheærio. *Calyx* squama. *Corolla* 4-partita. *Stylus* 1. *Stigmata*, 2—3. *Capsula* 2—3-loba, 2—3 locularis; loculis monospermis.	*Fertile florets* in the circumference. *Calyx* a scale. *Corolla* 4-parted. *Style* 1. *Stigmas* 2—3. *Capsule* 2—3 lobed, 2—3 celled, cells one-seeded.

1. DECANQULARE.

E. scapo decemstriato; foliis ensiformibus, glabris; capitulo magno, depresso-globoso; squamis involucri ovalibus, acutis, paleis receptaculi mucronatis.	Scape 10-furrowed; leaves ensiform, glabrous; head large, spherical, depressed; scales of the involucrum oval, acute, of the receptacle mucronate.

Sp. pl. 1. p. 485. Mich. 1. p. 165. Pursh, 1. p. 91. Nutt. 1. p. 90. E. Serotinum, Walt. p. 83.

Root perennial. *Leaves* strap-shaped, very narrow, acute, glabrous, showing no distinct midrib, ten to fifteen inches long. *Scape* two to three feet long, terete, glabrous, ten to twelve furrowed, sheathed near the base. *Scales* of the involucrum ovate, closely appressed, rather acute; scales of the disk longer than the florets, ovate, very acute. *Corolla* very white, deeply two? parted, fimbriate at the summit.

Grows in wet soils. St. Thomas, Mr. Caradeux.

Flowers July—August.

2. GNAPHALODES. Mich.

E. scapo subcompresso, decemstriato; foliis brevibus, subulato-ensiformibus, glabris; capitulo convexo;	Scape somewhat compressed, 10-furrowed; leaves short, subulate-ensiform, glabrous; head convex; scales of

involucri squamis ovalibus, obtusis, scariosis, argenteo-lucidis.	**the involucrum oval, obtuse, scarious, silvery.**

Mich. 2. p. 165. Pursh, 1. p. 91. Nutt. 1. p. 90.
E. Decanqulare, Walt. p. 83.

Perennial. *Leaves* eight to ten inches long, smooth, very glabrous, somewhat lucid, nerveless. *Scape* ten to fourteen inches high, furrowed, as in all of the genus somewhat spiral, sheathed at base. *Flowers* in a very compact head. Scales of the involucrum ovate, scarious, lucid, when young villous.

On comparing the description of Michaux with a specimen now before me, it would seem that two species were now united under this name.

Grows in damp, poor soils—common around pine barren ponds.

Flowers May—August.

3. VILLOSUM. Mich.

E. scapis aggregatis, compressis, sub quadrisulcis, villosis; foliis brevibus, subulato linearibus, pilosis; capitulo sphæroideo parvo; flosculis subfuliginosis.	**Scapes numerous, compressed, generally four furrowed, villous; leaves short, subulate linear, hairy; head small, spherical; florets dusky.**

Mich. 2. p. 166. Pursh, 1. p. 92. Nutt. 1. p. 90.
E. Anceps, Walt. p. 83.

Perennial. *Leaves* two to three inches long, subulate, hairy, but not as villous as the scape or sheath. *Scape* about twelve inches long, slender, villous, furrowed, several from each root. *Head* small, globose. Scales ovate, acute, dark coloured. *Corolla* nearly black, the fimbriæ at the summit white. *Stigmas* two.

Grows in damp, poor soils.

Flowers—May to September.

4. FLAVIDULUM. Mich.

E. scapis aggregatis, subseptem striatis, subpubescentibus; foliis	**Scapes numerous, generally seven-furrowed, somewhat pubescent;**

brevibus, subulato-ensiformibus, nervosis; capitulo convexo; squamis involucri suborbiculatis.	leaves short, subulate-ensiform, nerved; head convex; scales of the involucrum nearly orbicular.

Mich. 2. p. 166. Pursh, 1. p. 92. Nutt. 1. p. 90.

Perennial. *Leaves* one to two inches long, subulate, nerved, somewhat pellucid, sprinkled with a few hairs, and showing very distinctly between the nerves the numerous transverse partitions which are common in this genus. *Scape* three to four inches high, furrowed, nearly glabrous. Scales of the involucrum thin, scarious, nearly orbiculate; of the disk linear-lanceolate. *Style* one. *Stigmas* two. *Capsules* two, united, (didymous.)

Grows in inundated soils. Pursh. In Carolina. Mich. Pursh. I have not met with this species in the low country of Carolina.

Flowers—

ALNUS. Willd.

Masculi amentum receptaculis cuneiformibus, truncatis, trifloris compositum. *Calyx* squama. *Corolla* quadripartita.	*Sterile florets. Ament*, with the receptacles cuneiform, truncate, 3-flowered, compound. *Calyx* a scale. *Corolla* 4-parted.
Foeminei amentum. Calycis squamæ bifloræ. *Corolla* 0. *Semina* compressa, ovata, nuda.	*Fertile florets. Amentum.* Scales of the *calyx* 2-flowered. *Corolla* 0. *Seed* compressed, ovate, naked.

1. Serrulata. Aiton.

A. foliis obovatis, acuminatis, venis et axillis venarum subtus pilosis; stipulis ellipticis, obtusis.	Leaves obovate, acuminate, with the veins and axils of the veins on the under surface hairy; stipules elliptic, obtuse.

Sp. pl. 4. p. 336. Pursh, 2. p. 623. Nutt. 2. p. 206. Mich. art. for. 3. p. 320.
Betula Serrulata, Mich. 2. p. 181.

A shrub eight to twelve inches high, with many crooked, rather rigid branches. *Leaves* alternate, obovate, or ovate, at the summit slightly acuminate, doubly serrulate, nearly glabrous on the upper surface, strongly veined and pubescent underneath. *Stipules* oval or ovate, generally obtuse. Sterile flowers in a long pendulous ament. Fertile in an ovate cone near the base of the sterile. *Styles* two? *Seed* compressed.

Grows along the margin of water courses, very common.

Flowers during the winter while destitute of leaves.

BOEHMERIA. GEN. PL. 1421.

Masculi Calyx 4-partitus. *Corolla* 0. *Nectarium* 0.	*Sterile florets. Calyx* 4-parted. *Corolla* 0. *Nectary* 0.
Foeminei Calyx 0. *Corolla* 0. *Stylus* 1. *Semen* 1.	*Fertile florets. Calyx* 0. *Corolla* 0. *Style* 1. *Seed* 1.

1. CYLINDRICA. Lin.

B. foliis oppositis, ovato-oblongis, acuminatis, dentatis, glabris; floribus dioicis; spicis masculis glomeratis, interruptis, foemineis cylindricis; caule herbaceo.	Leaves opposite, ovate-oblong, acuminate, toothed, glabrous; flowers dioecious; sterile spikes clustered, interrupted, fertile spikes cylindrical; stem herbaceous.

Sp. pl. 4. p. 340. Pursh, 1. p. 112. Nutt. 2. p. 207.
Urtica Cylindrica, Walt. p. 230. Mich. 2. p. 179.

Stem two to four feet high, obtusely four-angled, glabrous. *Leaves* ovate, lanceolate, acuminate, three-nerved, on petioles. *Stipules* subulate, caducous. *Flowers* dioecious, the sterile in distinct clusters on a moderately long spike, the fertile forming a compact cylindrical spike one to two inches long.

Grows in shaded wet soils.

Flowers—June to August.

2. Lateriflora. Muhl.

B. foliis alternis, ovato-lanceolatis, acuminatis, serratis, scabris; floribus glomeratis, lateralibus; caule herbaceo.

Leaves alternate, ovate-lanceolate, acuminate, serrate, scabrous; flowers lateral, clustered; stem herbaceous.

Sp. pl. 4. p. 342. Pursh, 1. p. 112. Nutt. 2. p. 207.

Stem herbaceous, somewhat four-angled, glabrous, with the branches opposite. *Leaves* alternate, one and a half to two inches long, ovate-lanceolate, conspicuously acuminate, triplinerved, veiny, coarsely serrate, scabrous on both surfaces, but particularly on the upper, on long petioles. *Clusters* alternate lateral and axillary, few flowered. Willd.

This species I have not noticed in the low country. Dr. Muhlenberg mentions it as a native of Carolina.

Flowers—July to August.

URTICA. Gen. Pl. 1422.

Masculi. *Calyx* 4-phyllus. *Corolla* 0. *Nectarium* centrale, cyathiforme.

Foeminei. *Calyx* 2-valvis. *Corolla* 0. *Semen* 1, nitidum.

Sterile florets. *Calyx* 4-leaved. *Corolla* 0. *Nectary* central, cyathiform.

Fertile florets. *Calyx* 2-valved. *Corolla* 0. *Seed* 1, shining.

1. Pumila. L.

U. foliis oppositis, ovatis, acuminatis, trinerviis, serratis; petiolis inferioribus longitudine folii; floribus monoicis, triandris, capitato-corymbosis, petiolo brevioribus.

Leaves opposite, ovate, acuminate, three-nerved, serrate; the lower petioles as long as the leaves; flowers monoecious, triandrous, in clustered corymbs, shorter than the petiole.

Sp. pl. 4. p. 348. Walt. p. 230. Mich. 2. p. 178. Pursh, 1. p. 112. Nutt 2. p. 208.

Stem generally erect, about twelve inches high, obtusely four-angled, carnose, lucid, glabrous, branching sometimes from the base. *Leaves* opposite, decussate, lanceolate, acuminate, coarsely serrate, three-nerved, sprinkled with hairs on the upper surface, petioles very long, the lower longer than the leaves. *Flowers* in corymbose panicles, much shorter than the petioles, sometimes recurved. Sterile and fertile florets sometimes intermingled, sometimes one half of the panicle will be exclusively fertile the other sterile. *Calyx* of the sterile flower, four-leaved, leaves lanceolete. *Stamens* twice as long as the calyx, expanding as in all the species of this genus which I have examined, elastically. Of the fertile floret calyx 3? leaved, persistent. *Style* 0. *Stigma* sessile. *Seed* compressed, ovate, glabrous.

I have never been able to discover a nectary in the sterile florets of this species.

Grows in shaded wet soils.

Flowers July—September.

2. Urens. L.

U. foliis oppositis, ellipticis subquinquenervibus, argute serratis; spicis glomeratis, geminatis.	Leaves opposite, elliptic, somewhat 5-nerved, acutely serrate; spikes by pairs; flowers clustered.

Sp. pl. 4. p. 352. Pursh, 1. p. 113. Nutt. 2. p. 208.

Stem about twelve to fourteen inches high, obtusely four-angled, hairy, somewhat hispid, branching. *Leaves* opposite, cordate ovate, rugose, hairy, coarsely toothed, three-nerved, with the exterior nerves divided, sprinkled besides the hairs with white prickles. *Petioles* nearly an inch long. *Flowers* in axillary racemes, two in each axil, shorter than the petiole. Sterile and fertile florets intermingled. Of the sterile floret calyx four-leaved, leaves hairy, obtuse; filaments longer than the calyx, expanding elastically and discharging elastically the pollen; nectarium cyathiform; of the fertile floret calyx two-leaved, persistent, seed compressed.

Grows in damp soils, common around Beaufort; St. Mary's, Georgia.

Flowers December to February.

3. Chamœdroides. Pursh.

U. foliis oppositis, subsessilibus, ovatis, serratis, subtus strigosis; glo-	Leaves opposite, nearly sessile, ovate, serrate, strigose underneath;

merulis axillaribus, sessilibus, subglobosis, reflexis; caule stimuloso.	cluster of flowers axillary, sessile, somewhat globose, reflexed; prickles stimulant.

Pursh, 1. p. 112. Nutt. 2. p. 203.

Stem nearly simple, glabrous, four to six inches high. *Leaves* ovate, on short petiols, hairy underneath, sprinkled with a few hairs and white prickles on the upper surface, small, and for their size coarsely toothed. *Flowers* in compact axillary clusters scarcely longer than the petioles, the upper florets fertile, the lower sterile. *Calyx* of both florets hairy.

Collected on St. Simons, Georgia, by Mr. Lyon.

Flowers February to March.

4. Dioica.

U. foliis oppositis, cordatis, ovato-lanceolatis, grosse serratis; floribus dioicis; spicis paniculatis, glomeratis, geminatis, petiolo longioribus.	Leaves opposite, cordate, ovate lanceolate, coarsely serrate; flowers dioecious; spikes paniculate, by pairs, longer than the petiole; flowers clustered.

Sp. pl. 4. p. 352. Mich. 2. p. 179. Pursh, 2. p. 113. Nutt. 2. p. 208.

Stem branching and with the leaves and whole plant very hispid. *Leaves* cordate, ovate, slightly acuminate; acutely and deeply serrate, nerved, on petioles one to one and a half inches long. *Flowers* dioecious, (more frequently monoecious, Mich.) in clustered panicles, two from each axil.

In this species and in U. Urens the calyx of the fertile floret is four-leaved, two leaflets ovate cordate, two others opposite, very small. Leers in Sp. pl. l. c.

Grows along roads and in waste places, from Canada to Carolina, Pursh. I have not seen this species in the low country.

Flowers June—August.

5. Procera. Muhl.

U. foliis oppositis, ovato lanceolatis, serratis; petiolis ciliatis; flo-	Leaves opposite, ovate-lanceolate, serrate; petioles fringed;

ribus dioicis; spicis subramosis, glomeratis, geminatis, petiolo longioribus. E.	flowers dioecious; spikes branching, clustered, by pairs, longer than the petioles.

Sp. pl. 4. p. 353. Pursh, 1. p. 113. Nutt. 2. p. 208.
U. Filiformis? Walt. p. 230.

Stem three to four feet high, obtusely four-angled, pubescent. *Leaves* opposite, ovate lanceolate, sometimes obtuse, sometimes slightly acuminate, acutely serrate, strongly nerved and veined, sprinkled with hairs on the upper surface, very pubescent underneath along the veins. *Petioles* one to two inches long, pubescent and ciliate. *Flowers* in compact approximate clusters, on branching spikes. *Spikes* two from each axil, in all of my specimens longer than the petioles, sometimes nearly as long as the leaf. *Calyx* somewhat hairy.

In specimens of this plant which I received from Dr. Muhlenberg himself, and in others sent me from our upper country, the leaves are never cordate, and the spikes uniformly longer than the petiole.

Grows in wet soils in the upper districts of Carolina and Georgia.

Flowers July—August.

6. CAPITATA.

U. foliis alternis, cordato ovatis, acuminatis, serratis, trinervibus, petiolo duplo longioribus, glomerulis spicatis spicis solitariis folio brevioribus, superne foliosis, caule nudo.	Leaves alternate, cordate ovate, acuminate, serrate, three-nerved, twice as long as the petiole; clusters spiked, spikes solitary, shorter than the leaves, leafy at the summit; stem naked.

Sp. pl. 4. p. 363. Walt. p. 230. Pursh, 1. p. 113. Nutt. 2. p. 208.

Stem four to five feet high, obtusely four-angled, somewhat scabrous, furrowed. *Leaves* oblong, oval or lanceolate, coarsely toothed, scabrous, three-nerved; sometimes slightly cordate, large; those of the stem generally opposite, of the branches alternate; petioles long, unequal, when the leaves are opposite. *Flowers* in sessile clusters, lateral and axillary. Sterile and fertile florets intermingled. *Calyx* a little hairy. *Seed* compressed ovate.

Grows in shaded wet soils.

Flowers July—August.

7. Divaricata.

U. foliis alternis, ovatis, acuminatis, serratis, glabriusculis; petiolis longis, ciliatis; paniculis axillaribus, solitariis, divaricato ramosissimis, petiolo longioribus; caule stimuloso. Pursh.

Leaves alternate, ovate, acuminate, serrate, nearly glabrous; petioles long, ciliate; panicles axillary, solitary, divaricately branched, longer than the petioles; stem stimulant.

Sp. pl. 4. p. 365. Pursh, 1. p. 113. Nutt. 2. p. 208.

This species is nearly allied to the following, but is sufficiently distinct, in the leaves being not cordate and smooth, the panicles solitary and mixed with fertile florets, and in the general appearance of the plant. Pursh.

With this species I am unacquainted.

Grows in damp soils in rocky situations, from Canada to Carolina. Pursh. Flowers July—August.

8. Canadensis.

U. foliis alternis, cordato ovatis, acuminatis, serratis, utrinque hispidis; paniculis axillaribus, plerumque geminatis, divaricatis, ramosissimis, inferioribus masculis, petiolo longioribus, superioribus elongatis, femineis; caule hispidissimo, stimuloso.

Leaves alternate, cordate ovate, acuminate, serrate, hispid on both surfaces; panicle axillary generally in pairs, divaricately branched, the lower sterile, longer than the petiole, the upper spikes long, fertile; stem very hispid, stimulant.

Sp. pl. 4. p. 365. Walt. p. 230. Mich. 2. p. 178. Pursh, 1. p. 114. Nutt. 2. p. 208.

Stem four to eight feet high, branching, hispid. *Leaves* ovate, slightly acuminate, coarsely toothed, thin, sprinkled with hairs, sometimes cordate. *Flowers* in loose divaricate panicles nearly as long as the leaves, the lower panicles, perhaps most of the early flowers sterile, the later fertile, branches of the panicle very hispid. *Calyx* hairy. *Seed* oblique, resembling much one joint of the pods of the Hedysarum.

The fibres of the two last described species are so strong that it has been strenuously proposed to substitute them in many cases for hemp.

Grows in Carolina along the mountain streams, Pursh. I have not seen this species in the maritime districts of Carolina or Georgia.

Flowers July—August.

MORUS. Gen. Pl. 1424.

Masculi. *Calyx* 4-partitus. *Corolla* 0. *Foeminei.* *Calyx* 4-phyllus. *Corolla* 0. *Styli* 2. *Calyx* baccatus. *Semen* 1.

Sterile florets. *Calyx* 4-parted. *Corolla* 0. *Fertile florets.* *Calyx* 4-leaved. *Corolla* 0. *Styles* 2. *Calyx* berry formed *Seed* 1.

1. Alba.

M. foliis profunde cordatis, basi inæqualibus, ovatis lobatisve, inæqualiter serratis, læviusculis.

Leaves deeply cordate, unequal at base, ovate and lobed, unequally serrate, nearly smooth.

Sp. pl. 4. p. 368. Nutt. 2. p. 209.

Leaves undivided, shining, thin. *Flowers* monoecious.

This tree, a native of China and Persia, is now entirely naturalized in this country. Around the plantations in the low country it occurs, I think, more frequently than our native species. It grows from twenty-five to thirty feet high, and sometimes two to three feet in diameter. Its peculiar inhabitant, the silk worm, thrives equally well.

Flowers March.

2. Rubra.

U. foliis cordatis, ovatis, acuminatis trilobisve, æqualiter serratis, scabris, subtus pu-

Leaves cordate, ovate, acuminate, frequently three-lobed, equally serrate, sca-

bescentibus; amentis foemineis cylindricis.	brous, pubescent underneath; fertile aments cylindrical.

Sp. pl. 4. p. 369. Walt. p. 241. Mich. 2. p. 179. Prush, 2. p. 639. Nutt. 2. p. 209. Mich. arb. for. 3. p. 232.

A tree which, in favourable situations, is said by Michaux to attain the height of sixty to seventy feet, and a diameter of eighteen to twenty-four inches, branches long, virgate. *Leaves* of the old tree, ovate, acuminate, serrate, scabrous on the upper suface pubescent underneath; those of the young plants frequently palmate and very scabrous. *Flowers,* I believe, always dioecious. Sterile florets in a spike or ament one to two inches long, calyx four parted, *stamens* four, longer than the calyx. Fertile florets in a short spike. Calyx four-leaved, after flowering closing becoming juicy, forming a cylindrical fruit composed of many one seeded berries.

Grows in rich alluvial soils, along the margin of rivers and swamps, not uncommon though rarely becoming in the low country a large tree. The timber is durable and is generally preferred in building boats, or for the light timbers of vessels to any wood excepting the red cedar.

Flowers March.

PARIETARIA. GEN. PL. 1576.

Hermaphroditi. Calyx 4 fidus. *Corolla* 0. *Stamina* 4. *Stylus* 1. *Semen* 1, superum, elongatum.	*Herm. Calyx* 4-cleft. *Corolla* 0. *Stamens* 4. *Style* 1. *Seed* 1, superior, long.
Foeminei. Calyx 2—4 fidus. *Corolla* 0. *Stamina* 0. *Stylus* 1. *Semen* 1, superum, elongatum.	*Fertile florets. Calyx* 2—4 cleft. *Corolla* 0. *Stamens* 0. *Style* 1. *Seed* 1, superior, long.

1. PENNSYLVANICA. Muhl.

P. foliis oblongo-lanceolatis, venosis, opaco-punctatis; involucro 3-phyllo, floribus longiore.	Leaves oblong lanceolate, veiny, opake dotted; involucrum 3-leaved, longer than the flower.

Sp. pl. 4. p. 955. Pursh, 1. p. 114. Nutt. 2. p. 208.

Stem twelve to fifteen inches high, striate, very pubescent. *Leaves* alternate, linear lanceolate, with a long nearly acute summit, dotted, pubescent particularly along the veins and margin, tapering at base to a petiole about half an inch long. *Flowers* in compact axillary clusters. Female and Hermaph. intermingled. Two hermaph. and one female floret generally enclosed in a six-leaved involucrum. *Leaves* of the involucrum oblong, hispid. *Calyx* oblong, persistent, the segments uniting and forming a cover for the seed.

Grows in the upper districts of Carolina and Georgia. Sent me from Augusta by Dr. Leavenworth.

Flowers May—July.

2. Floridana. Nuttall.

P. foliis rotundato-ovatis, obtusis, opaco-punctatis; floribus glomeratis, involucrum æquantibus; caule assurgente.	**Leaves ovate, nearly round, obtuse, opake, dotted; flowers clustered as long as the involucrum; stem assurgent.**

Nutt. 2. p. 208.

Stem twelve to eighteen inches high, decumbent, with the branches erect, pubescent near the summit, sometimes nearly glabrous at base. *Leaves* ovate, dotted, pubescent, sometimes nearly round, sometimes abruptly acuminate, but still obtuse, on petioles as long as the leaves. *Flowers* in axillary clusters, not generally so crowded as in the former species. *Leaves* of the involucrum nearly linear, not longer than the flowers.

Grows in sandy soils when damp. Common along the sea coast of Carolina and Georgia. First sent me from Florida by Dr. Baldwin under the name of P. lucida.

Flowers May—October.

ATRIPLEX. Gen. Pl. 1577.

Hermaphroditi Calyx 5-phyllus. *Corolla* 0. *Stamina* 5. *Stylus* 2-partitus. *Semen* 1, depressum.	*Herm. florets. Calyx* 5-leaved. *Corolla* 0. *Stamens* 5. *Style* 2-parted. *Seed* 1, depressed.

Foeminei. Calyx 2-phyllus. *Corolla* 0. *Stamina* 0. *Stylus* 2-partitus. *Semen* 1, compressum.

Fertile florets. Calyx 2-leaved. *Corolla* 0. *Stamens* 0. *Style* 2-parted. *Seed* 1, compressed.

1. Patula.

A caule herbaceo, patulo; foliis triangulari hastatis acuminatis, subdentatis; fructus calycibus rhombeis, apice denticulatis, disco submuricatis.

Stem herbaceous, expanding; leaves triangular, hastate, acuminate, slightly toothed; calyx of the fruit rhomboidal, toothed at the summit, slightly muricate on the disc.

Sp. pl. 4. p. 964. Nutt. 1. p. 197.

Annual. *Stem* prostrate, somewhat angled, branching, glabrous, one to two feet long. *Leaves* attenuate, triangular, hastate, generally entire, glabrous, on petioles nearly an inch long. *Flowers* clustered on axillary and terminal spikes. *Calyx* persistent, denticulate near the summit, muricate or crested on the back.

The plant of our low country which has been referred to this species appears to be certainly indigenous. It grows in brackish soils at the head of tide water in many of our creeks. Bees creek, Pocotaligo, and near Charleston. I have, however, at present no specimen with mature seed, which I could compare more accurately with the European plant.

Flowers June to September.

2. Angustifolia.

A. caule herbaceo, divaricato; foliis inferioribus hastatis, subdentatis, superioribus lanceolatis, integerrimis; fructus calycibus hastato lanceolatis, integerrimis.

Stem herbaceous, divaricate; lower leaves hastate, slightly toothed, the upper lanceolate, entire; calyx of the fruit hastate lanceolate, entire.

Sp. pl. 4. p. 965.

Annual. *Stem* divaricate, somewhat prostrate, angled, glabrous. (Lower *leaves* hastate slightly toothed, Willd.) upper lanceolate, narrow, entire, glabrous, attenuated at base. *Flowers* in compact clusters axillary and terminal. *Calyx* of the fruit deltoid, hastate, sometimes denticulate, the back strongly veined but not crested.

Found though rarely near the margin of salt water around Charleston, perhaps an exotic. I have never seen the lower leaves hastate, but the early leaves of plants frequently decay before the flowers are expanded.

Flowers June—July.

3. Laciniata.

A. caule erecto, herbaceo foliis triangularibus profunde dentatis, subtus albidis; fructus calycibus rhombeis, trinerviis, denticulatis.

Stem erect, herbaceous; leaves triangular, deeply toothed, whitish underneath; calyx of the fruit rhomboidal, three-nerved, toothed.

Sp. pl. 4. p. 963. Walt. p. 252. Pursh, 1. p. 199. Nutt. 1. p. 198.

The whole plant covered with a thin separating epidermis. *Stem* erect, terete, naked, virgate. *Leaves*, except the very lowest, alternate, deltoid, toothed, silvered over with small plates or scales. Terminal spikes hermaphrodite with the anthers light red. Female florets axillary, in pairs. *Calyx* of the fruit compressed, five toothed, the intermediate one the largest. Lin. *Leaves* when growing spontaneously almost snow white underneath, when cultivated pale white. Will.

Grows generally along the margins of salt or brackish streams. Walter appears to have seen this species; I have not met with it.

Flowers June—August.

4. Arenaria. Nuttall.

A. caule herbaceo, expatente; foliis subsessilibus oblongo-ovatis, integerrimis, argentatis; fructus calycibus muricatis, dentatis, retusis.

Stem herbaceous, expanding; leaves nearly sessile, oblong ovate, entire, silvery; calyx of the fruit muricate, toothed, retuse.

Nutt. 1. p. 198.
A. Glauca. Walt. p. 252.

Stem about two feet high, geniculate, much branched, glabrous, frequently purple, the epidermis generally in a state of separation. *Leaves* alternate, oblong, mucronate, the lower rather obtuse, covered on both surfaces with silvery scales, nearly sessile. *Flowers* monoecious; the sterile in terminal spikes clustered; the fertile in axillary clusters. Of the sterile florets; *Calyx* five-leaved, the leaves lanceolate, small; *Filaments* five, longer than the calyx. *Anthers* didymous bright purple. Of the fertile florets, the calyx two-leaved persistent. *Leaves* appressed, three-lobed; the lateral lobes two-toothed; the intermediate, long acute, each bearing two short dentated crests. *Styles* two, longer than the calyx. *Seed* orbicular, compressed.

Grows in soils that are occasionally inundated by the ocean.

Flowers July—November.

AMARANTHUS. Gen. Pl. 1431.

Masculi. *Calyx* 3—5 phyllus. *Corolla* 0. *Stamina* 3. s. 5.	*Sterile florets*. *Calyx* 3—5 leaved. *Corolla* 0. *Stamens* 3 or 5.
Foeminei. *Calyx* 3—5 phyllus. *Corolla* 0. *Styli* 3. *Capsula* 1, locularis, circumscissa. *Semen* 1.	*Fertile florets*. *Calyx* 3—5 leaved. *Corolla* 0. *Styles* 3. *Capsule* 1 celled, circumscissed. *Seed* 1.

1. Lividus.

A. glomerulis triandris, subspicatis, rotundatis; foliis ellipticis retusis; caule erecto.	Flowers clustered, triandrous, in rounded spikes; leaves elliptic, retuse; stem erect.

Sp. pl. 4. p. 386. Pursh, 1. p. 207. Nutt. 2. p. 210.

Plant annual. *Stem* 2—3 feet high, smooth, generally purple. *Leaves* alternate, more commonly ovate as described by Linnæus, than elliptic, obtuse, emarginate, slightly undulate, strongly veined, glabrous, on petioles 1—2 inches long. *Spikes* compound, axillary and terminal. Sterile and fertile florets intermingled, small clusters of fertile florets in the axils of the lower leaves. *Calyx* 3-leaved. *Stamens* 3, longer than the calyx. *Styles* two and three, very short. *Capsule* rugose, somewhat persistent.

Grows in cultivated lands and about buildings—common.

Flowers from June—September.

2. PUMILUS.

A. glomerulis pentandris axillaribus; foliis ovatis, obtusis, emarginatis, carnosis, rugosis; caule procumbente, glabro. E.

Flowers pentandrous in axillary clusters; leaves ovate, obtuse, emarginate, carnose, rugose; stem procumbent, glabrous.

Rafinesque Med. Repos. 2. p. 360. Nutt. 2. p. 210.

Plant annual. *Stem* one to two feet high, procumbent and ascending, somewhat carnose, generally purple. *Leaves* ovate, ribbed, succulent; with the margin entire and cartilaginous, dotted, slightly glaucous underneath. *Flowers* in sessile clusters, crowded towards the summit of the stem. Sterile and fertile florets intermingled. *Calyx* 5-leaved, leaves oval. *Filaments* 5, as long as the calyx. *Styles* 3. *Capsule* rugose, persistent.

Grows on the drifting sands along the margin of the ocean.

Flowers August—October.

3. HYBRIDUS.

A. racemis pentandris, decompositis, congestis, erectis; foliis ovato-lanceolatis.

Flowers pentandrous, in decompound, erect, clustered racemes; leaves ovate lanceolate.

Sp. pl. 4. p. 389. Walt. p. 232. Pursh, 1. p. 207. Nutt. 2. p. 210.

Stem four to six feet high, furrowed, and somewhat hairy. *Leaves* ovate, lanceolate, acute, muncronate, ribbed, pubescent, slightly scabrous, on petioles about an inch long. *Spikes* axillary and terminal, supradecompound, sterile and fertile florets intermingled. *Calyx* 5-leaved, leaves lanceolate, acute; filaments five, nearly as long as the calyx. *Germ* obovate, acuminate. *Styles* two to three. *Capsule* rugose, circumscissed.

Grows in cultivated grounds, very common.

Flowers July—October.

4. SANGUINEUS.

A. racemis pentandris, supradecompositis, erectis; ramis patentibus, glabris; foliis oblongis, acutis.

Flowers pentandrous in supradecompound, erect racemes; branches expanding, glabrous; leaves oblong, acute.

Sp. pl. 4. p. 390. Pursh, 1. p. 207. Nutt. 2. p. 210.

Stem naked. *Racemes* terminal, erect; the lateral and the partial ones expanding. *Leaves* lurid on the upper surface, entirely red underneath. Lin.

Grows in cultivated grounds, Virginia to Carolina. Pursh.

Flowers July—August.

5. Hypochondriacus.

A. racemis pentandris, compositis, confertis erectis; foliis oblongo lanceolatis, mucronatis.	Flowers pentandrous, in compound, crowded, erect racemes; leaves oblong lanceolate, mucronate.

Sp. pl. 4. p. 392. Pursh, 1. p. 207. Nutt. 2. p. 210.

Annual. *Stem* four to eight feet high, glabrous, furrowed. *Leaves* long, large, lanceolate, entire, ribbed, lurid on the upper surface, generally purple on the under, on long petioles. *Racemes* terminal, paniculate. Sterile and fertile florets intermingled. *Calyx* 5-leaved, leaves very acute, bright purple. *Stamens* five, longer than the calyx. *Styles* three. *Capsules* circumscissed.

Grows in cultivated ground, not indigenous, at least in the low country of Carolina.

Flowers June—October.

6. Spinosus.

A. racemis pentandris, terminalibus, compositis; axillis spinosis.	Flowers pentandrous, in compound, terminal racemes; axils spiny.

Sp. pl. 4. p. 393. Walt. p. 232. Pursh, 1. p. 208. Nutt. 2. p. 210.

Stem two to three feet high, diffusively branched, glabrous, generally coloured. *Leaves* lanceolate, rather obtuse, mucronate, entire, glabrous, slightly glaucous underneath. *Petioles* as long as the leaves, with two spinous stipules at their base. *Spikes* compound axillary and terminal, the upper florets generally sterile. *Calyx* five-leaved, the leaves lanceolate, very acute, filaments five, longer than the calyx. *Styles* three. *Capsule* ovate, transparent, somewhat persistent.

A very common weed around buildings and in cultivated land.

Flowers June—October.

In several species of this genus the two halves of the capsule appear to cohere until they both decay; in others the upper half falls as soon as the seed matures.

SCHISANDRA. Michaux. Stellandria. Brickell.

Masculi. *Calyx* 5-phyllus, inferus, imbricatus. *Corolla* 5-petala. *Filamenta* 0. *Antheræ* receptaculo sessiles.

Foeminei. *Calyx* 5-phyllus, imbricatus. *Corolla* 5-petala. *Stamina* 0. *Germina* plurima capitatim congesta, receptaculo demum elongato. *Baccæ* 1-spermæ.

Sterile florets. *Calyx* 5-leaved, inferior, imbricate. *Corolla* 5-petalled. *Filaments* 0. *Anthers* sitting on a receptacle.

Fertile florets. *Calyx* 5-leaved, imbricate. *Corolla* 5-petalled. *Stamens* 0. *Germs* numerous, collected into heads, receptacle extended when mature. *Berries* 1-seeded.

1. Coccinea. Mich.

Mich. 2. p. 219. Pursh, 1. p. 212. Nutt. 2. p. 209.

Stem voluble, glabrous, ten to fifteen feet long. *Leaves* alternate, lanceolate, sometimes denticulate, glabrous, occasionally somewhat cordate, petiolate. *Flowers* solitary, axillary, on short peduncles. Corolla and receptacle? of the sterile florets of a deep crimson colour, and acquiring from the pale yellow, sessile anthers, that stellular appearance from which the name of Brickell was derived. In the fertile floret the germs are aggregated as in the flowers of the Rubus, but the receptacle extends as it matures, and the berries do not unite and form one fruit as in the Rubus or Morus, but become detached and scattered. Berries red, one seeded. Dr. Brickell considered the fruit as a two celled, one seeded drupe.

In my description of this plant I have followed, in a great measure, the manuscript notes of the late Dr. Brickell, who, I believe, had examined it with great attention.

Grows in rich damp soils, near Savannah.

Flowers May—June.

CROTONOPSIS. Michaux.

Masculi. *Calyx* 5-partitus. *Corolla* 5-petala.

Foeminei. *Calyx* 5-

Sterile florets. *Calyx* 5-parted. *Corolla* 5-petalled.

Fertile florets. *Ca-*

partitus. *Corolla* 0. *Stigmata* 3, duplicato bifida. *Capsula* monosperma, nondehiscens.	*lyx* 5-parted. *Corolla* 0. *Stigmas* 3, doubly 2 cleft. *Capsule* 1 seeded, not opening.

1. LINEARIS.

C. caule erecto, dichotome-ramosissimo; foliis supra stellato pilosis, subtus argenteo-lepidotis.	Stem erect, dichotomously branching; leaves on the upper surface stellularly hairy, underneath covered with silvery scales.

Mich. 2. p. 186. Sp. pl. 4. p. 380. Pursh, 1. p. 206. Nutt. 2. p. 209.

Stem twelve to eighteen inches high, dichotomously branched, with the divisions generally remote, covered like the under surface of the leaves, with silvery scales. *Leaves* linear-lanceolate or ovate, entire, on short petioles. *Flowers* in short terminal and axillary spikes, small, the upper florets sterile. *Capsule* oval, covered also with scales.

The leaves of this plant vary from linear-lanceolate to ovate; the extremes appear sufficiently distinct, but intermediate specimens seem to connect them.

Grows in dry pine barrens, near Georgetown, and in the middle districts of Carolina.

Flowers June—May.

PLANERA. GMELIN.

Masculi. *Calyx* campanulatus, 4-fidus. *Corolla* 0. *Stamina* 3—5, exserta.	*Sterile florets.* *Calyx* campanulate, 4-cleft. *Corolla* 0. *Stamens* 3—5, exserted.
Hermaphroditi. *Calyx* campanulatus, 4-fidus. *Corolla* 0. *Stigmata* 2, sessilia, recur-	*Herm. florets.* *Calyx* campanulate, 4-cleft. *Corolla* 0. *Stigmas* 2, sessile, recurved. *Nut*

vata. *Nux* monosperma, coriacea, squamulosa.

one-seeded, coriaceous, scaly.

1. AQUATICA. Walt.

Sp. pl. 4. p. 967. Mich. 2. p. 248. Pursh, 1. p. 115. Nutt. 1. p. 202.
Planera Ulmifolia. Mich. arb. for. 283.
Anon. aquatic. Walt. p. 230.

A small tree generally about twenty-five to thirty feet high, twelve to fifteen inches in diameter, branches slender, virgate. *Leaves* ovate, acute, serrate, slightly scabrous on short petioles. *Flowers* monoecious, expanding before the leaves. Sterile florets in small sessile clusters near the extremity of the last year's wood. Stamens longer than the calyx, 3—4 or 5. Fertile florets solitary, or in small clusters intermingled with the sterile. *Nut* ovate, one-celled, not winged, but covered with loose ovate scales.

Grows along the margin of river swamps; most common in the middle districts of Carolina and Georgia.

Flowers March.

CELTIS. GEN. PL. 1591.

Masculi. Calyx 5—6 partitus. *Corolla* 0. *Stamina* 5—6.

Hermaphroditi. Calyx 5-partitus. *Corolla* 0. *Stamina* 5. *Styli* 2. *Drupa,* 1 sperma.

Sterile florets. Calyx 5—6 parted. *Corolla* 0. *Stamens* 5—6.

Herm. florets. Calyx 5-parted. *Corolla* 0. *Stamens* 5. *Styles* 2. *Drupe* 1 seeded.

1. OCCIDENTALIS.

C. foliis ovatis, acuminatis, serratis, basi inæqualibus, supra scabris, subtus hirtis.

Leaves ovate, acuminate, serrate, unequal at base, scabrous on the upper surface, hairy underneath.

Sp. pl. 4. p. 994. Walt. p. 250. Mich. 2. p. 249. Pursh, 1. p. 200. Nutt. 1. p. 202.
Mich. arb. for. 3. p. 225.

A tree which sometimes on the sea-islands obtains a height of sixty to seventy feet, with a diameter of two to four feet; branches erect and expanding; bark united but corrugate, rimose. *Leaves* attenuate, ovate, acuminate, oblique at base, when old nearly glabrous; the young somewhat hairy, scabrous and entire. *Petioles* three to five lines long, hairy. *Flowers* axillary, the lower sterile frequently by threes; the upper fertile solitary. *Peduncles* four to ten lines long. *Stipules* two, pubescent, as long as the peduncles. Of the sterile floret, calyx five to six parted; filaments five to six, as long as the calyx, united at base. *Anthers* greenish. Of the fertile floret, germ superior; style or rather stigmas two, expanding curved. *Fruit*, a globular dry drupe, of a purple colour and saccharine taste.

Around Beaufort formerly this tree was very common, and several of them in the town had obtained the size I have mentioned. The wood, however, appears not to be strong; the branches are easily broken from the stem by high winds, and in the frequent gales to which the sea-coast of Carolina and Georgia has been exposed during the last twenty or twenty-five years, the finest of these trees have literally been torn to pieces. Along the margin of the sea-islands this tree, perhaps, occurs more frequently than in any other situation.

Flowers March.

ZIZANIA. GEN. PL. 1433.

Masculi. *Calyx* 0. *Corolla*, gluma 2-valvis, mutica, foemineis mixta.

Foeminei. *Calyx* 0. *Corolla* gluma 2-valvis, aristata. *Stylus* 2-partitus. *Semen* 1, corolla plicata vestitum.

Sterile florets. *Calyx* 0. *Corolla*, glume 2-valved, unawned, mingled with the fertile florets.

Fertile florets. *Calyx* 0. *Corolla* glume 2-valved, awned. *Style* 2-parted. *Seed* clothed with the plaited corolla.

1. AQUATICA.

Z. panicula pyramidata, inferne divaricata mascula, superne spicata foeminea; pedicellis florum clavatis; aristis longis; semine elongato.

Panicle pyramidal, divaricate and sterile at base, spiked and fertile towards the summit; pedicells of the flower clavate; awns long; seed long.

Walt. p. 233. Pursh, 1. p. 60. Nutt. 2. p. 210.
Z. Palustris, Sp. pl. 4. p. 395.
Z. Clavulosa, Mich. 1. p. 75.

Root perennial. *Stem* 6—12 feet high, terete, glabrous, polished, encircled at the joints with a silken pubescence. *Leaves* oblong-lanceolate, slightly channelled, finely serrulate, glabrous on both surfaces, of a light green colour, 2—4 feet long, one to one and a half inches wide, closely sheathing at base, the sheaths shorter than the internodes. *Flowers* in a large terminal panicle, the branches verticillate, the lower expanding, bearing sterile florets, the upper somewhat erect, the florets all fertile, on short incrassated pedicels; of the sterile floret glume 2-valved, valves equal, ciliate along the back and margins; nectary 2 very small lanceolate membranes at the base of the filaments; filaments 6, short; anthers oblong; the sterile flower pendulous caducous. Of the fertile floret glume 2-valved, valves unequal, the exterior linear-lanceolate, tapering to a bristle nearly 2 inches long, ciliate; the interior smaller, very acute; nectary as in the sterile floret; germ short, oval. *Styles* 2, short. *Seed* oblong.

This grass grows in great abundance near the mouths of our fresh water rivers. It constitutes a considerable portion of the fresh water marshes; preferring those situations where the soil is overflowed one or two feet deep at high water. Its leaves are succulent and eaten with avidity by stock of all descriptions. In Savannah, under the name of wild oats, it is used almost exclusively during the summer season as green fodder for their cows and horses. It is said not to make good hay, but I suspect it has not been fairly tried; perhaps the experiments have been made on leaves or plants not sufficiently mature. The seed are more saccharine than those of any other of the gramineæ which I have ever tasted, but they are also the most caducous.

Flowers October and November.

2. MILIACEA. Mich.

Z. panicula effusa, pyramidata; glumis brevi-aristatis; floribus masculis et foemineis mixtis; stylo 1; semine ovato, lævi; foliis perennantibus glaucescentibus.

Panicle expanding, pyramidal; glumes with short awns; florets sterile and fertile intermingled; style 1; seed ovate, smooth; leaves perennial, glaucescent.

Mich. 1. p. 74. Sp. pl. 4. p. 394. Pursh, 1. p. 60. Nutt. 2. p. 210.
Z. Palustris, Walt. p. 233.
Z. Aquatica, Sp. pl. 4. p. 394?

Stem erect, 6—10 feet high, terete, glabrous, even at the joints. *Leaves* 1—6 feet long, one to one and a half inches wide, flat, striate, serrulate, glaucous, perennial, sheath at base open, shorter than the internodes. *Flowers* in a large terminal pyramidal panicle, the lower branches generally by threes, the upper lanceolate. *Flowers* sterile and fertile intermingled, the upper florets generally sterile. Of the sterile floret glume 2-valved, valves equal, lanceolate, slightly mucronate, nerved, serrulate near the summit; filaments 6, very short; nectaries 2, minute. Of the fertile floret valves 2, unequal, lanceolate, mucronate. *Style* 1, longer than the interior valve of the corolla. *Stigmas* 2. *Seed* oval, glabrous.

This species is more common than the preceding, and grows in similar situations; its leaves are harsh and coarse, eaten, I believe, by no animal, perennial, and of a dull glaucous colour.

Flowers April—May.

3. FLUITANS. Mich.

Z. pusilla, culmis gracilibus, ramosis; foliis linearibus, planis; spicis solitariis axillaribus, setaceis, subquadifloris; glumis muticis.	Plant small; stem slender, branching; leaves linear, flat; spikes solitary, axillary, setaceous, generally 4-flowered; glumes unawned.

Mich. 1. p. 75. Sp. pl. 4. p. 395. Pursh, 1. p. 61. Nutt. 2. p. 210.

This species is said by Dr. Baldwin, to be very common in the vicinity of Savannah. A small, creeping, jointed grass, floating whenever the soil on which it grows is overflowed. I have had no opportunity of examining it when in flower, nor of ascertaining whether our Southern plant is really the species described by Michaux. In habit and appearance it is totally unlike the two preceding species.

MYRIOPHYLLUM. GEN. PL. 1440.

Masculi. *Calyx* quadrifidus. *Petala* 4, caduca. *Stamina* 4 s. 8.	*Sterile florets.* *Calyx* 4-cleft. *Petals* 4, caducous. *Stamens* 4 or 8.
Foeminei. *Calyx* et *Corolla* maris. *Germina* 4. *Styli* 0. *Capsulæ* 4, monospermæ.	*Fertile florets.* *Calyx* and *Corolla* like those of the sterile floret. *Germs* 4. *Style* 0. *Capsules* 4, one-seeded.

1. VERTICILLATUM. Lin.

M. foliis pinnatis, capillaceis, superioribus pectinato-pinnatifidis; floribus axillaribus, verticillatis, superioribus masculis, 8-andris.	Leaves pinnate, capillary, the upper pectinate, pinnatifid; flowers axillary, verticillate, the upper sterile octandrous.

Sp. pl. 4. p. 407. Mich. 2. p. 190. Pursh, 1. p. 274. Nutt. 2. p. 211.

The upper florets of this species sometimes produce both styles and stamens.

Grows from Canada to Carolina; and in Lower Louisiana, Nutt.

Flowers July—August. Pursh.

2. SCABRATUM. Mich.

M. foliis pinnatifidis; floribus omnibus verticillatis axillaribus; superioribus masculis 4-andris, inferioribus foemineis; fructu 8-angulato.	Leaves pinnatifid; flowers verticillate axillary; the upper sterile tetrandrous, the lower fertile; fruit 8-angled.

Mich. 2. p. 190. Sp. pl. 4. p. 408. Pursh, 1. p. 274. Nutt. 2. p. 211. Potamogeton Pinnatum, Walt. p. 90.

Root perennial. *Stem* about 12 inches high, terete, procumbent and assurgent, floating, taking root at the lower joints. *Leaves* verticillate, generally by fours, the lowest setaceous resembling fibres, the upper linear, pinnatifid, rarely an inch long, with 2 segments usually on each side. *Flowers* verticillate, also by fours, sessile, small; the upper sterile. *Corolla* of both florets pale purple. *Stamens* 6, scarcely longer than the corolla. *Fruit* as if composed of 4 seed united each having an elevated broad 2-edged rib along the back.

Grows in shallow ponds.

Flowers April—June, and probably through the whole summer.

3. HETEROPHYLLUM. Mich.

M. foliis inferioribus capillaceo pinnatis, su-	Lower leaves capillary, pinnate, the up-

perioribus ovalibus, argute serratis; floribus 6-andris.

per oval, acutely serrate; flowers hexandrous.

Mich. 2. p. 191. Sp. pl. 4. p. 408. Prush, 1. p. 274. Nutt. 2. p. 211. Potamogeton Verticillatum, Walt. p. 90.

Stem 1—2 feet high, terete, glabrous, floating, radicant, occasionally branching. Lower submersed *leaves* numerous, verticillate, setaceous, rather more than an inch long, pinnate with the segments also setaceous; the upper leaves lanceolate, sessile, acutely serrate, somewhat irregularly verticillate. *Flowers* in irregular whorls sitting in the axils of the lanceolate leaves, the upper sterile. *Calyx* and *Corolla* small, somewhat persistent. *Stamens* rather longer than the corolla. *Germs* 4. *Capsules* united, ribbed, as in the preceding, along the back.

Grows in pine barren ponds.

Flowers May—July.

SAGITTARIA. Gen. Pl. 1441.

Masculi. *Calyx* 5-phyllus. *Corolla* 3-petala. *Filamenta* plurima.

Foeminei. *Calyx* 3-phyllus. *Corolla* 3-petala. *Germina* plurima. *Semina* multa, nuda.

Sterile florets. *Calyx* 3-leaved. *Corolla* 3-petalled. *Filaments* numerous.

Fertile florets. *Calyx* 3-leaved. *Corolla* 3-petalled. *Germs* numerous. *Seed* many, naked.

1. Sagittifolia, var. Latifolia.

S. foliis ovatis, sub acutis, sagittatis, lobis ovatis, acuminatis, rectis; scapo simplici, floribus monoicis; bracteis ovatis, acutis.

Leaves ovate, generally acute, sagittate, lobes ovate, acuminate, straight; scape simple; flowers monoecious; bracteas ovate, acute.

Mich. 2. p. 189. Walt. p. 283. Nutt. 2. p. 213.
S. Latifolia, Sp. pl. 4. p. 409. Pursh, 2. p. 396.

Root perennial. *Stem* 0. *Leaves* all from the root, ovate, sagittate, acute, sometimes obtuse, entire, very glabrous, strongly nerved, lobes long, acuminate, and very acute; with the lobes 6—14 inches long, 4—7 wide, on petioles 1—2 feet long dilated at base. *Scape* 1—2 feet long. Proper *peduncles* by threes, verticillate, scarcely an inch long, upper flowers sterile, the lower fertile. *Involucrum* 3-leaved, (perhaps 1-leaved, deeply 3-parted, with the segments 3-cleft,) leaves ovate, acute, frequently 3-cleft. *Calyx* 3-leaved, of the sterile floret deciduous. *Petals* 3, larger than the calyx, round, white. *Stamens* about 30, shorter than the corolla. *Germs* very numerous, collected into a globular head. *Style* very short. *Capsule?* incurved, gibbous on one side, not opening, containing one oval seed.

Grows in ponds, ditches, and wet places.

Flowers August—October.

2. Pubescens. Muhl.

S. pubescens; foliis oblongo-ovatis, acutis, sagittatis; lobis ovatis, acuminatis, rectis; scapo simplici; floribus monoicis; bracteis subrotundis, pubescentissimis.

Pubescent; leaves oblong ovate, acute, sagittate; lobes ovate, acuminate, straight; scape simple; flowers monoecious; bracteas nearly round, very pubescent.

Muhl. Cat. p. 86. Nutt. 2. p. 213.

A plant very similar in most respects to the preceding, but with the stem and leaves pubescent, and the bracteal leaves and calyx very pubescent. As far as it has fallen under my observation, it appears to bear smaller leaves, longer in proportion to their size, and the lobes less divaricate; and the bracteal leaves which in the former species are with us ovate and acute, are in this shorter, nearly round, and obtuse.

Grows very common in the western districts of Georgia. I do not remember to have seen it along the sea coast.

Flowers August—October.

3. Hastata. Pursh.

S. foliis oblongo-lanceolatis, sensim-acutis, sagittatis, lobis patentibus, lanceolatis, longissime - acuminatis;

Leaves oblong-lanceolate, acute, sagittate; lobes expanding, lanceolate, with very long acuminate points;

scapo simplici; floribus dioicis; bracteis calycibusque subrotundis, obtusis.

scape simple; flowers dioecious; bracteas and calyx nearly round, obtuse.

Pursh, 2. p. 213. Nutt. 2. p. 213.
S. Gracilis, Pursh, 2. p. 396.

A plant in its general habit resembling the two preceding, but the leaves are long, very narrow, with long, slender, divaricate lobes. In the var. Gracilis, Pursh remarks that the leaf (from the summit of the petiole) rarely exceeds 3 inches in length.

Grows (at least the var. Gracilis) in the mountainous districts of Carolina and Georgia.

Flowers July—August.

4. NATANS. Mich.

S. foliis natantibus, elliptico-lanceolatis, obtusis, nervosis, infimis subcordatis; scapo simplici, paucifloro; pedunculis inferioribns elongatis.

Leaves floating, elliptic-lanceolate, obtuse, nerved, the lowest slightly cordate; scape simple, few-flowered; lower peduncles very long.

Mich. 2. p. 190. Pursh, 2. p. 397. Nutt. 2. p. 213.

Root perennial, the fibres articulated. *Leaves* generally floating, elliptic, entire, 3-nerved, the lowest ovate cordate, 7-nerved, 1—2 inches long. *Scape* generally erect, 3—6 inches long. *Flowers* not numerous, small, the upper sterile. Leaves of the calyx lanceolate. *Petals* round. *Stamens* about 8. *Germs* numerous.

Grows in shallow ponds. When deserted by water it becomes erect, but rarely exceeds 6—8 inches in height.

Flowers May—August.

5. LANCIFOLIA.

S. foliis lato-lanceolatis, utrinque acutis, glabris, coriaceis, subperennantibus; scapo

Leaves broad, lanceolate, acute at each end, glabrous, coriaceous, somewhat perenni-

simplici; seminibus compressis, subfalcatis. E.	al; scape simple; seed compressed, slightly falcate.

Sp. pl. 4. p. 410. Walt. p. 233. Mich. 2. p. 189. Nutt. 2. p. 213. S. Falcata, Pursh, 2. p. 397.

Root somewhat tuberous, creeping. *Sap*, as in most of this genus, lactescent. *Leaves* large, 10—14 inches long, 3—5 wide, lanceolate, entire, striate, many nerved, coriaceous. *Petioles* 1—2 feet long. *Scape* 2—3 feet long. *Flowers* verticillate by threes, the upper sterile. Leaves of the involucrum ovate, acuminate, glabrous. Leaves of the calyx round, tinged with purple. *Petals* much larger than the calyx, white as in all of this genus. *Filaments* numerous, (nearly 60) hairy. *Germs* numerous. *Stigma* 3—5 cleft. *Capsules* collected into a compact globular head.

Grows in deep marshes and wet and boggy soils.

Flowers April—June.

6. Graminea. Mich.

S. foliis lineari-lanceolatis, triplinervibus, subperennantibus; scapo simplici; floribus monoicis; bracteis ovatis, acuminatis.	Leaves linear-lanceolate, triplinerved, somewhat perennial; scape simple; flowers monoecious; bracteas ovate, acuminate.

Mich. 2. p. 190. Pursh, 2. p. 397. Nutt. 2. p. 213. S. Simplex, Pursh, 2. p. 397?

Root perennial. *Leaves* linear-lanceolate, entire, glabrous, 3—4 inches long, scarcely half an inch wide, many of them living through the winter. *Petioles* about a foot long. *Scape* rather longer than the petioles. *Flowers* verticillate by threes, the upper sterile. Leaves of the calyx lanceolate, small. *Petals* much longer than the calyx. *Filaments* about 10, hairy. *Anthers* frequently 2 on each filament. *Capsules* obliquely mucronate, collected into a globular head.

Grows in shallow ponds; very common in pine barrens.

Flowers April—June.

QUERCUS. Gen. Pl. 1446.

Masculi. *Amentum* nudum, lineare. *Calyx*	*Sterile florets.* *Ament* naked, linear.

sub 5-fidus. *Stamina* 4—10.	slightly 5-cleft. *Stamens* 4—10.
Foeminei. *Calyx* monophyllus, integerrimus, scaber. *Corolla* 0. *Styli* 2—5. *Nux* coriacea, calyce persistente basi cincta.	*Fertile florets.* *Calyx* one-leaved, very entire, scabrous. *Corolla* 0. *Styles* 2—5. *Nut* coriaceous, surrounded at base by the persistent calyx.
* *Fructificatio biennis; foliis plerumque setaceo-mucronatis.*	* *Fructification biennial; leaves generally mucronate.*

1. Phellos. Lin.

Q. foliis deciduis, lineari-lanceolatis, utrinque attenuatis, integerrimis, glabris, mucronatis; nuce subrotunda.	Leaves deciduous, linear-lanceolate, tapering at each end, entire, glabrous, mucronate; nut nearly round.

Sp. pl. 4. p. 423. Walt. p. 234. Mich. 2. p. 197. Pursh, 2. p. 625. Nutt. 2. p. 214.

Mich. arb. for. 2. p. 74. Mich. Quer. N. 7 to 12. (Q. Phellos Sylvatica.)

A tree 30—60 feet high, erect, straight, generally slender for its height. *Leaves* linear-lanceolate, entire, very slightly mucronate, nearly sessile, generally deciduous, when young of a very light green colour, resembling somewhat those of the willow. *Spikes* of sterile florets near the termination of the last year's wood. Fertile florets solitary in small clusters. *Fruit* (an acorn) nearly spherical, mucronate, small, sitting in a scaly cup.

The leaves of the young plant have generally one tooth or angle, rarely more, on each side.

Grows generally in swamps or along their margins; the timber is but little used. Willow oak.

Flowers March and April.

2. Cinerea. Mich.

Q. foliis perennantibus, coriaceis, oblongo-lanceolatis, integerrimis, margine subrevolutis, apice mucronatis, subtus stellatim tomentosis; fructibus sessilibus; nuce subglobosa.	Leaves perennial, coriaceous, oblong-lanceolate, entire, with the margin slightly revolute, mucronate at the summit, stellularly tomentose underneath; fruit sessile; nut nearly spherical.

Mich. 2. p. 197. Sp. pl. 4. p. 425. Pursh, 2. p. 626. Nutt. 2. p. 214.
Q. Pumilis, Walt. p. 234.
Icon. Mich. Querc. No. 8 t. 14. Mich. arb. for. 2. p. 81.

A small tree rarely exceeding 20 feet in height, with irregular crooked branches. *Leaves* on short petioles, oblong-lanceolate, sometimes acute, sometimes obtuse, always mucronate, very slightly revolute along the margin, covered underneath with a very close and short tomentum, of a greyish hue, but very generally discoloured with shades of brown. *Acorn* small, not abundant, nearly spherical. *Cup* shallow, sessile.

Grows on the dry and barren hills in the middle districts of Carolina and Georgia, sometimes called high ground Willow Oak, Turkey Oak, Scrub Oak, which last name, however, includes the Q. Nigra or Black Jack and Q. Catesbæi, to which it more peculiarly belongs.

Flowers March—April.

3. Pumila. Walt.

Q. foliis deciduis, oblongo-lanceolatis, subundulatis, basi obtusis, apice acutis, mucronatis, subtus tomentosis, supra glabris; nuce subgloboso.	Leaves deciduous, oblong - lanceolate, slightly undulate, obtuse at base, acute and mucronate at the summit, glabrous on the upper surface, tomentose underneath; nut nearly spherical.

Walt. p. 234. Nutt. 2. p. 214.
Q. Phellos, var Pumila, Mich. 2. p. 197.
Q. Sericea, Sp. fol. 4. p. 424. Pursh, 2. p. 626.

Icon. Mich. Querc. t. 13—f. 1, 2. Mich. arb. for. 2. p. 84.

A small shrub with creeping roots, rarely exceeding two feet in height. *Stem* slender, virgate, tomentose when young, sparingly branched. *Leaves* on short petioles, oblong-lanceolate, obtuse at base, undulate particularly when young, the under surface covered with a dense hoary tomentum, the upper when young sprinkled with a stellular pubescence, becoming glabrous with age. The sterile florets are produced in such profusion, as to render the plant very conspicuous at the season of flowering. *Acorn* small, not produced in any abundance even when not destroyed by fire, nearly spherical. *Cup* shallow, on a very short peduncle.

The figure of Michaux the younger, arb. for. which recalls the plant very accurately to my recollection, represents the leaves as tapering at base, specimens before me have them all very obtuse. In this respect it probably varies.

This has always appeared to me a very distinct species, marked by many characteristic features. In many situations where the woods have not for years been burnt, I have seen it growing, without exceeding the height I have specified. I know not how Mr. Nuttall was led to consider it as a *Swamp* variety of the Q. Cinerea; for although it does not generally grow in a soil as arid as the sand hills in the middle country to which the Q. Cinerea appropriately belongs, it is found only in the driest pine barrens along that district which is emphatically called the "low country of Carolina and Georgia."

Flowers March—April.

4. VIRENS. Aiton.

Q. foliis perennantibus, coriaceis, ovali-lanceolatis, integerrimis, margine revolutis, basi obtusis, apice sub acutis, subtus stellatim pubescentibus; fructibus pedunculatis; nuce oblonga.

Leaves perennial, coriaceous, oval-lanceolate, entire, with the margins revolute, obtuse at base, generally acute at the summit, stellularly pubescent underneath; fruit on peduncles; nut oblong.

Sp. pl. 4. p. 425. Mich. 2. p. 196. Pursh, 2. p. 626. Nutt. 2. p. 214.
Q. Sempervirens, Walt. p. 234.
Icon. Mich. Querc. t. 10—11. Mich. arb. for. 2. p. 67.

A large tree, with spreading curved and twisted branches, rarely exceeding 50 feet in height, but covering with its enormous limbs when growing in open situations, a large circumference. The *Stem* sometimes attains a diameter of 5—7 feet, but generally divides into large branches at 8 or 10 feet from the ground. *Leaves* oval-lanceolate, with the margins conspicuously revolute, pubescent, almost tomentose underneath, entire on the old tree, toothed or angled on the young, frequently obtuse. *Aments* of sterile florets small, fertile florets very numerous. *Fruit* oval, nearly black, mucronate, pedunculate, generally in pairs.

The timber of this oak is perhaps the most valuable that is known for the purposes of naval architecture. Its fibre is compact, heavy, strong, and durable, twisted so as to split with difficulty, and hardening with age or on exposure to weather. The natural curvature of the branches is in general precisely such as the timbers of a ship require, so that the strength of the wood may, with a little care, be entirely preserved. It is also used in machines, for the fellows of cog wheels, and in general wherever strength and durability are required, and where its weight and crookedness form no objection. Its bark is excellent for the use of the Tanner, and its smaller branches are generally used for fuel, and constitute in fact the best firewood in our country.

This tree is now becoming scarce in the forests, as the soil and situation in which it naturally grows, is that peculiarly adapted for the cultivation of the Sea-Island Cotton. It is only seen in perfection in old fields, or as an ornamental tree near buildings, or on the margins of islands or points of lands projecting into salt water. It is much to be regretted, that residents on the Sea-Islands do not plant avenues of this noble tree along the roads leading up to their houses, as a means not only of preserving and eventually increasing the supply of timber, but of adding embellishments to situations, which have frequently all the beauties that water and wood can give to the scenery of a level country. We perhaps want the variety which cultivation even in its most regular aspect can bestow. All, however, who have seen the fine avenues of Live Oak near Dorchester, will acknowledge, that they would add magnificence to any landscape.

Grows along the sea coast, often flourishing luxuriantly when a portion of its roots are washed by the salt water at a very high tide.

Flowers and sheds a portion of its leaves in April.

5. Maritima. Willd.

Q. foliis perennantibus, coriaceis, lanceolatis, integerrimis, glabris, basi attenuatis, apice acutis, mucronatis; nuce ovali.	Leaves perennial, coriaceous, lanceolate, entire, glabrous, tapering at base, acute at the summit, mucronate; nut oval.

Sp. pl. 4. p. 424. Pursh, 2. p. 625. Nutt. 2. p. 214.
Q. Phellos, var. Maritima, Mich. 2. p. 197.
Icon. Mich. Querc. t. 13. f. 3.

A shrub 4—10 feet high, growing along the sea coast. *Leaves* oblong-lanceolate, (often sinuately toothed, smooth and of the same colour on both sides, Nutt.) on very short petioles. *Nut* oblong, mucronate, rather large. *Cup* pedunculate.

This species has always appeared to me to be most nearly allied to the Q. Virens. Its acorn is similar in shape, but larger.

Grows in the vicinity of salt water.
Flowers April.

6. Myrtifolia. Willd.

Q. foliis perennantibus, coriaceis, parvis, oblongo-obovatis, muticis, utrinque acutis, glabris, supra nitidis reticulatisque, margine revolutis.	Leaves perennial, coriaceous, small, oblong-ovate, unawned, acute at each end, glabrous, shining and reticulate on the upper surface, margin revolute.

Sp. pl. 4. pl. 424. Pursh, 2, p. 626l Nutt. 2. p. 214.

Branches terete. *Leaves* on short petioles, coriaceous, oblong, rather acute at base, entire and slightly revolute, shining on the upper surface, opake and glabrous underneath, resembling very much those of the common Myrtle, willd; scarcely larger than those of the Box, Nutt.

This specie of oak was discovered, I believe, by Mr. Kim, on Cumberland Island in Georgia, and probably extends along the sea-coast of Florida; its fruit is still unknown.

Flowers.

7. Laurifolia. Mich.

Q. foliis sub perennantibus, sessilibus, oblongo - lanceolatis, sub acutis, basi attenuatis, integerrimis, utrinque glabris; nuce subovata.	Leaves nearly perennial, sessile, oblong-lanceolate, nearly acute, tapering at base, entire, glabrous on both surfaces; nut somewhat ovate.

Mich. 2. p. 197. Sp. pl. 4. 427. Pursh, 2, p. 627. Nutt. 2. p. 214.
Q. Hemisphærica, Bartram's Travels, p. 320.
Icon. Mich. Querc. t. 17 and 18; perhaps also t. 20. f. 2.

A tree sometimes growing 40—50 feet high, and 2—4 feet in diameter, with its branches regularly expanding and forming a large handsome hemispherical head. *Leaves* oblong-lanceolate, sometimes obovate, acute or obtuse, nearly sessile, very glabrous on both surfaces, with the margins slightly revolute; those of the young plant toothed and irregularly sinuate; all somewhat clustered near the summit of the small branches. *Fruit* ovate. *Cup* shallow, nearly sessile.

This is one of our handsomest species of oak, and is frequently cultivated around buildings instead of the live oak, as it is supposed to be more easy to remove, more rapid in its growth, and by some considered, on account of the regularity of its branches, more beautiful. The old trees shed their leaves freely towards the close of the winter, and are nearly naked in March. The young plants generally retain their foliage. The timber is supposed to possess neither the strength nor durability of the live oak.

The figure in Mich. Querc. t. 20. f. 2. exactly resembles the young plants of this species. And as this oak, though growing in dry soils, is more known by the name of "Water Oak," than by any other appellation, it is not impossible that Michaux may have been misled by its popular denomination to insert a figure of it among the real Water Oaks.

I have always considered this as the real Q. Hemisphærica of Bartram. It certainly is the species to which his description most appropriately applies.

Grows in rich sandy soils along the margin of swamps, appearing to take the place of the live oak as you leave the margin of the ocean, but growing also with the live oak on the sea-islands.

Flowers April.

8. Imbricaria. Mich.

Q. foliis deciduis, oblongis, utrinque acutis, mucronatis, integerrimis, nitidis, subtus pubescentibus; nuce subglobosa.

Leaves deciduous, oblong, acute at each end, mucronate, entire, shining, pubescent underneath; nut nearly spherical.

Mich. 2. p. 197. Sp. pl. 4. p. 428. Pursh, 2. p. 627, Nutt. 2. p. 214. Icon. Mich. Querc. t. 15, 16. Mich. arb. for. 2. p. 78.

A tree 40—50 feet high, 12—18 inches in diameter, with numerous irregular branches. *Leaves* lanceolate, entire, mucronate, shining on the upper surface, very pubescent and somewhat ferruginous underneath, on very short petioles. *Fruit* rather small, nearly spherical. *Cup* shallow, nearly sessile.

The leaves of this species are much larger than those of the Q. Laurifolia, and are very pubescent underneath; the fruit also differs in figure. The wood is said by Michaux to be of little value, but it splits easily, and is used in the Western States, where it more frequently occurs, for shingles.

Grows in the mountains of Carolina, Dr. Macbride; not found in the low country.

Flowers—

** *Foliis apice lobatis.*	** *Leaves lobed at the summit.*

9. AQUATICA. Walter.

Q. foliis obovato-cuneiformibus, glabris, integerrimis, apice obsolete trilobis, muticis, lobo intermedio majore; glande subglobosa.	Leaves obovate cuneiform, glabrous, entire, obscurely 3-lobed at the summit, unawned, the middle lobe large; nut nearly spherical.

Sp. pl. 4. p. 441, Walt. p. 234. Mich. 2. p. 198. Pursh, 2. p. 628.

A tree rarely exceeding 30 or 40 feet in height, and 12—18 inches in diameter. *Branches* somewhat regular but never forming a handsome head. *Leaves* sessile, cuneate obovate, obscurely 3-lobed at the summit, very glabrous, the veins underneath prominent. *Fruit* not abundant. *Germs* generally in pairs. *Acorn* ovate, rather small. *Cup* shallow, on a very short peduncle.

This tree bears some resemblance to the Q. Laurifolia, but is, I think, sufficiently distinct. It is neither valued for timber nor fuel.

Grows in damp, springing soils, around ponds and in shallow swamps.

Flowers March—April.

10. NANA. Willd.

Q. foliis cuneiformibus, glabris, apice trilobis, basi subsinuatis, lobis divaricatis, mucronatis, intermedio majore, axillis venarum subtus pubescentibus; nuce ovato-subglobosa.	Leaves wedge-shaped, glabrous, 3-lobed at the summit, slightly sinuate at base, the lobes divaricate, mucronate, the middle one the largest, axils of the veins pubescent underneath; nut ovate, nearly glabrous.

Sp. pl. 4. p. 443. Pursh, 2. p. 628.

Q. Hemisphærica. var. Nana, Nutt. 2. p. 214.

With this species I am personally unacquainted. A single leaf, however, which was sent me under this name by Dr. Muhlenberg, agrees minutely with the description of Wildenow, and certainly belongs to no variety of the Q. Aqautica or Q. Laurifolia that I have seen. It resembles the leaves of the Q. Ilicifolia more nearly than those of any species that I possess; but differs from that by being more distinctly 3-lobed at the summit, by being glabrous underneath except in the axils of the large leaves. *Leaves* between 2 and 3 inches long, deeply 3-lobed and mucronate at the summit, obtusely sinuate near the base.

Grows in the pine barrens of Carolina and Georgia, Pursh.

Flowers.

11. NIGRA.

Q. foliis coriaceis, cuneiformibus, basi subcordatis, apice dilatatis, retuso-subtrilobis, junioribus mucronatis, supra glabris, subtus rubiginoso-pulverulentis; glande brevi-ovata.

Leaves coriaceous, wedge shaped, slightly cordate at base, dilated at the summit, retusely 3-lobed, when young mucronate, glabrous on the upper surface, rusty and pulverulent underneath, nut short, ovate.

Sp. pl. 4. p. 442. Walt. p. 234. Mich. 2. p. 198. Prush, 2. p. 629. Nutt. 2. p. 214.

Icon, Mich. Querc. t. 22, 23. Mich. arb. for. 2. p. 92.

A small tree 20—25 feet high, rarely exceeding 10 inches in diameter, irregular in its growth, and covered with a thick rough black bark. *Leaves* on short petioles 5—7 inches long, obovate, dilated at the summit, obscurely 3-lobed, glabrous on the upper surface, covered underneath with a ferruginous dust. *Nut* short, ovate, mucronate, not abundant. *Cup* rather deep, sessile.

The wood of this tree is of little or no value as timber, but it is much esteemed for fuel. It is universally known by the name of Black Jack, while the name of Black Oak is as generally given to another species. It varies with the lobes, sometimes obsolete unarmed, sometimes very distinct and mucronate.

Grows on the poorest sand hills, and always indicates a dry barren soil.

Flowers March, April.

12. Tinctoria. Bartram.

Q. foliis obovato-oblongis, lævissime sinuatis, subtus in axillis pubescentibus, lobis oblongis, obtusis, obsolete denticulatis, setaceo-mucronatis; glande depresso-globosa.

Leaves obovate, oblong, slightly sinuate, pubescent underneath in the axils, lobes oblong, obtuse, obscurely toothed, mucronate; nut depressed, globular.

Sp. pl. 4. p. 444. Mich. 2. p. 198. Pursh, 2. p. 629. Nutt. 2. p. 214.
Icon. Mich. Querc. t. 24—25.

This is one of our largest species of Oak, growing in the rich high land of the upper country, 60—70 feet high, and 3—4 feet in diameter, covered with a very dark-coloured bark, from whence it has derived its common name of Black Oak. *Leaves* on petioles about an inch long, obovate, angled, slightly and obtusely sinuate, mucronate, glabrous on the upper surface, when young slightly pubescent or pulverulent on the under, afterwards only pubescent in the axils. *Nut* depressed ovate, rather large. *Cup* deep, sessile.

This tree appears to vary much; besides the var. Sinuosa figured by Michaux the elder, t. 25. and which evidently belongs to this species, the plate of Michaux the younger, arb. for. 2. p. 110. t. 22. seems to represent an entirely distinct species. I have specimens of this latter variety or species sent me from Philadelphia by Mr. Kim, as the Q. Tinctoria, which agree exactly with Michaux's figure; they would be Q. discolor, but they are glabrous underneath, and are not discoloured.

Grows in the rich uplands of the upper country, rare along the sea-coast.
Flowers March—April.

13. Discolor. Aiton.

Q. foliis oblongis, pinnatifido-sinuatis, subtus pubescentibus, lobis oblongis, dentatis, setaceo-mucronatis; glande ovata.

Leaves oblong, pinnatifid, sinuate, pubescent underneath, lobes oblong, toothed, mucronate; nut ovate.

Sp. pl. 4. p. 444. Pursh, 2. p. 629. Nutt. 2. p. 214.
Icon. Abbot's Insects of Georgia, t. 111—56.

Leaves nearly resembling those of Q. Coccinea, but pubescent underneath; by the Autumn, however, the leaves are nearly naked, only pubescent along the veins. In the Spring they are hoary and pubescent on both surfaces, which is not the case with either the Q. Coccinea or Q. Rubra—Willd.

With this species I am not well acquainted. The leaves in the figures of Abbot resemble very much those of the last variety mentioned under Q. Tinctoria, but are hoary from their pubescence.

Grows in the oak lands of the middle and upper country—a large tree.

Flowers April.

14. Coccinea. Wangenheim.

Q. foliis oblongis, profunde sinuatis, glabris, lobis divaricatis, dentatis, acutis, setaceo-mucronatis; calycibus fructus basi attenuatis.	Leaves oblong, deeply sinuate, glabrous, lobes divaricate, toothed, acute, mucronate, calyx of the fruit tapering at base.

Sp. pl. 4. p. 445. Mich. 2. p. 199. Pursh, 2. p. 630. Nutt. 2. p. 214. Icon. Mich. Querc. t. 31, 32. Mich. arb. for. p. 116.

A large tree 70—80 feet high, and 3—4 feet in diameter. *Leaves* deeply sinuate, very glabrous, the sinuses obtuse, the lobes very acute, acutely notched and toothed, and mucronate. *Petioles* 2—4 inches long. *Fruit* very abundant. *Nut* ovate, oblong, mucronate. *Cup* turbinate, sessile, enclosing about half of the nut.

This species, which constitutes a large proportion of the oak forests of the upper country, is distinguished by the brilliant colour of its leaves towards the close of Autumn. Its wood is principally converted into staves or rails or fuel. It is one of the many species to which the name of Red Oak is indiscriminately applied. Its leaves are perhaps more dissected than those of any other species except the Q. Palustris.

Grows in the rich oak lands of the upper country. Not common in the lower.

Flowers in April.

15. Rubra.

Q. foliis oblongis, obtuse sinuatis, glabris, lobis acutiusculis, dentatis, setaceo-mucronatis; calycibus fructus subtus planis.	Leaves oblong, obtusely sinuate, glabrous, lobes nearly acute, toothed, mucronate; calyx of the fruit flat at base.

Sp. pl. 4. p. 445. Mich. 2. p. 200. Pursh, 2. p. 630. Nutt. 2. p. 214.
Icon. Mich. Querc. t. 35—36. Mich. arb. for. 2. p. 126.

A large tree growing 70—80 feet in height, and 3—4 in diameter. *Leaves* glabrous, sinuate, with the re-entering angles frequently acute, the lobes very acute and very acutely notched, mucronate. *Petioles* 2—4 inches long. *Fruit* abundant. *Nut* ovate, mucronate, nearly truncate at base. *Cup* shallow, very flat, sessile.

This species has a strong affinity to the Q. Coccinea, but its leaves are generally larger, not so deeply sinuate, the base of the sinus more frequently acute, and in Autumn they change to a dull red and finally become yellow. The acorn also in this species is larger, and remarkable for its flat base and shallow cup.

This tree is very abundant in the oak land of the upper districts of Carolina and Georgia. It is rare along the sea-coast. Its wood is used for staves, and rails for fences. Its bark is valuable to the tanner. For the purposes of the Architect, however, the timber of none of the "Red Oaks" is equal either in strength or durability to that of the different species and varieties of the White and Chesnut Oaks.

Grows in dry soils.

Flowers April.

16. CATESBÆI. Mich.

Q. foliis lævissime petiolatis, basi cuneatis, oblongis, coriaceis, glabris, profunde sinuatis, lobis divaricatis, acutis, mucronatis; cupula turbinata, ampla, squamis obtusis, marginalibus introflexis; nuce ovata.

Leaves on very short petioles, wedge shaped at base, oblong, coriaceous, glabrous, deeply sinuate, the lobes divaricate, acute, mucronate; cup turbinate, large, scales obtuse, those of the margin bent inwards; nut ovate.

Mich. 2. p. 199. Sp. pl. 4. p. 446. Pursh, 2. p. 630. Nutt. 2. p. 214.
Q. Lævis? Walt. p. 234.
Icon. Mich. Querc. t. 29, 30. Mich. arb. for. 2. p. 101.

A small tree from 15 to 36 feet high, and rarely exceeding 12 inches in diameter, the branches and stem irregular and crooked. *Leaves* nearly sessile, coriaceous, glossy, deeply sinuate, the lobes very commonly simple, divaricate and falcate, sometimes bearing 1 or 2 acute teeth. *Fruit* not abundant. *Nut* rather ovate. *Cup* large for the size of the fruit, deep, inclosing commonly half of the acorn, sessile, and remarkable for its obtuse scales, which cover a portion of its inner surface.

The leaves of this species are lobed very much like those of Q. Rubra, but the lobes are much more simple, the leaf itself is more coriaceous and sessile, and the fruit and tree altogether distinct.

It is not used at all as timber. Its wood makes excellent fuel, and its bark is valuable to the tanner, but is not easily procured.

Grows in dry, poor, sandy soils; the largest that I have seen are to be found on the Sea-Islands.

Flowers April.

17. Falcata. Michaux.

Q. foliis longe petiolatis, basi obtusis, subtus tomentosis, trilobis, sinuatis, lobis subfalcatis, setaceo-mucronatis, terminali elongato; glande globosa.	Leaves on long petioles, obtuse at base, tomentose underneath, 3-lobed or sinuate, lobes somewhat falcate, mucronate, the terminal one long; nut globular.

Mich. 2. p. 199. Pursh, 2. p. 631. Nutt. 2. p. 214.
Q. Elongata, Sp. pl. 4. p. 444.
Q. Rubra, Walt. p. 234.
Icon. Mich. Querc. t. 28. Mich. arb. for. 2. p. 104.

This is one of our largest trees, growing 70 to 80 feet in height, and in favourable situations 3—4, and sometimes 5 feet in diameter, having generally a straight trunk and large branches regularly expanding. *Leaves* on long petioles, deeply lobed, lobes in general not numerous (3—5) falcate, simple, acute, mucronate, smooth and glossy on the upper surface, covered with a dense tomentum underneath. *Nut* small, abundant, ovate. *Cup* shallow, somewhat turbinate on a short peduncle.

This, along the sea-coast of Carolina and Georgia, is the most common species of Oak, particularly in soils that are dry and only moderately fertile. Its wood is principally used for staves, or more commonly consumed for fencing or as fuel. Its bark, however, is preferred to that of every other species of Oak for tanning.

Var. *a*. Triloba.

Q. foliis cuneiformibus, basi obtusis, apice subæqualiter trilobis, mucronatis, supra glabris, subtus tomentosis.	Leaves wedge shaped, obtuse at base, nearly equally 3-lobed at the summit, mucronate, glabrous on the upper surface, tomentose underneath.

Q. Triloba, Sp. pl. 4. p. 443. Mich. 2. p. 199. Pursh, 2. p. 629. Icon. Mich. Querc. t. 26.

This variety grows promiscuously with the preceding, and resembles it entirely in size, habit and appearance; yet, I do not recollect to have seen any tree bearing indiscriminately the 3-lobed and falcate leaves. If not a distinct species, it is certainly a very permanent variety.

These two trees are called by the inhabitants Red Oak or Spanish Oak. Where I have seen any distinction made, Red Oak was applied to the Q. Triloba—Spanish Oak to the Q. Falcata.

Grows in dry soils, moderately fertile.

Flowers April.

Var. *b*. PAGODÆFOLIA.

Q. foliis oblongis, multilobatis, basi sub acutis, lobis simplicibus, divaricatis, mucronatis, sub oppositis, subtus pubescentibus; nuce ovata.	Leaves oblong, many lobed, nearly acute at base, lobes simple, divaricate, mucronate, generally opposite, pubescent underneath; nut ovate.

This tree, which has a strong affinity to the Q. Falcata, may deserve a further examination. Its leaves on petioles 2—3 inches long, have frequently 11—13 lobes generally opposite, simple, acute, and diminishing very regularly upwards from the first or second pair; the under surface is only pubescent, not tomentose. The acorn is small, ovate. The tree itself large.

This tree I first noticed on the banks of the Roanoke in North-Carolina, along the road from Petersburg to Raleigh. I have since seen it near Granby, South-Carolina, growing in both places in rich swamp land.

18. ILICIFOLIA. Wangenheim.

Q. foliis longe petiolatis, obovato-cuneiformibus, tri-quinquelobis, margine integerrimis, subtus cinereo tomentosis, lobis setaceo mucronatis; nuce subglobosa.	Leaves on long petiole, obovate, wedge-shaped, 3—5 lobed, entire along the margin, cinereous and tomentose underneath, the lobes mucronate; nut nearly spherical.

Sp. pl. 4. p. 447. Nutt. 2. p. 215.
Q. Banisteri, Mich. 2. p. 199. Pursh, 2. p. 631.
Icon. Mich. Querc. t. 27. Mich. arb. for. 2. p. 96.

A small shrubby Oak, generally growing from 3—4 feet high, sometimes 8—10. *Leaves* cuneate, usually 5-lobed, the lobes rather acute and mucronate, the upper surface smooth, the under covered with a white tomentum. *Petioles* about an inch long. *Fruit* so abundant as sometimes to cover the branches. *Nut* ovate. *Cup* large for the size of the acorn, shallow, Mich.

Grow in dry, poor, gravelly soils—New-York to Georgia, Muhl. I have never seen this species in our low country.

Flowers.

** *Fructificatio annua; folia mutica.*

** *Fructification annual; leaves unawned.*

† *Foliis lobatis.*

† *Leaves lobed.*

19. OBTUSILOBA. Michaux.

Q. foliis oblongis, sinuatis, basi cuneatis, subtus pubescentibus, lobis obtusis, superioribus dilatatis; calycibus fructus hemisphæricis, nuce ovali.

Leaves oblong, sinuate, cuneate at base, pubescent underneath, lobes obtuse, the upper dilated; calyx of the fruit hemispherical; nut oval.

Mich. 2. p. 194. Pursh, 2. p. 632. Nutt. 2. p. 215.
Q. Stellata, Sp. pl. 4. p. 452.
Q. Villosa? Walt. p. 235.
Icon. Mich. Querc. t. 1. Mich. arb. for. p. 36.

A tree generally from 30—40 feet high, and 1—2 in diameter, but sometimes attaining a height of 50—60 feet, and a diameter of 3—4; branches generally straggling, irregular, and the foliage not dense. *Leaves* on short petioles generally 5-lobed, the upper lobes dilated and emarginate, or bilobed; all very obtuse, glabrous on the upper surface, covered with a stellular pubescence underneath. *Nut* oblong. *Cup* hemisphærical, inclosing nearly half of the acorn.

This tree is very common in cold, stiff, gravelly soils. Its timber is supposed in strength and durability to surpass that of any other species of the Oak, except the Live Oak; and, therefore, it is highly prized when it can be obtained sufficiently large, to be used in the construction of vessels. The small trees are much used in fencing for posts, hence its common name of "Post Oak." Near the sea-coast of Carolina and Georgia it rarely becomes a large tree; but, in the fertile lands in the State of Alabama, it attains a great size.

Grows in moist or gravelly clay soils.

Flowers April.

20. LYRATA. Walter.

Q. foliis oblongis, sinuatis, glabris, lobis oblongis, sub acutis, superioribus dilatatis, angulato-truncatis; calycibus fructus nucis magnitudine; glande globosa, subtecta.	Leaves oblong, sinuate, glabrous, lobes oblong, nearly acute, the upper dilate, angled; calyx of the fruit as large as the nut; nut globular, nearly covered.

Walt. p. 235. Sp. pl. 4. p. 453. Mich, 2. p. 295. Pursh, 2. p. 623. Nutt. 2. p. 215.

A large tree attaining the height of 60—70 feet, and a diameter of 2—4, with branches somewhat regular, and a head of dense and handsome foliage. *Leaves* long, irregularly and lyrately sinuate, the lower lobes generally acute, the upper obtuse and sometimes emarginate, glabrous on both surfaces, nearly sessile. *Nut* of a middling size, almost globular, covered excepting its mucronate summit, with its scaly cup. *Cup* muricate, on a short peduncle.

The timber of this tree is said by Michaux to be valuable, but inferior to the White Oak. It is, in fact, so circumscribed in its habitat, that it is but little used or known. Over Cup Oak.

Grows almost exclusively in the rich swamps that border our large rivers. By no means rare in its native habitations.

Flowers April.

21. ALBA. Lin.

Q. foliis oblongis, pinnatifido - sinuatis, subtus pubescentibus, lobis oblongis, obtusis, integerrimis; calycibus fructus pedunculatis, basi planis; nuce ovata.	Leaves oblong, pinnatifid, sinuate, pubescent underneath, lobes oblong, obtuse, entire; calyx of the fruit on peduncles, flat at base; nut ovate.

Sp. pl. 4. p. 448. Walt. p. 235. Mich. 2. p. 195. Pursh, 2, p. 633. Nutt. p. 215.

Icon. Mich. Querc. t. 5. Mich. arb. for. p. 13.

This is one of the largest and most valuable trees in the American Forests, growing frequently to the height of 70 or 80 feet, with a diameter of 3—5, and, according to Michaux, sometimes of 7 feet. Its trunk is often straight for 40 or 50 feet, and free from branches. *Leaves* on short petioles, deeply pinnatifid, pubescent and glaucous underneath, lobes oblong, obtuse. *Fruit* large, frequently in pairs. *Nut* ovate. *Cup* deep, inclosing nearly half of the acorn.

This tree is supposed to produce the best timber of any Oak in the United States, excepting the Q. Virens. It furnishes to Naval Architeeture, from its straight trunk and great size, many pieces of timber which cannot be procured from the Live Oak. In Civil Architecture, in Machinery, to the Carriage-Maker, and to numerous other artizans, it offers many advantages, and is employed wherever a wood, straight, compact, strong, elastic, durable but heavy, is required. Its staves are also preferred to those of any other tree; and its bark, not much used, is said to be valuable to the tanner. Perhaps no tree in the United States possesses so many good qualities.

It grows in a rich damp soil. In the low country of Carolina and Georgia, it is found along the margins of swamps, and in flat rich high lands. In the upper country it seeks a rich and rather damp soil. In all of these situations it attains a large size. But, the district which contains the finest forests of the Q. Alba, the Q. Obtusiloba, and the Q. Prinus (Palustris) in the United States, and probably in the world, is the country which encloses the Alabama and its tributary streams.

Flowers April.

†† *Foliis dentatis.*	†† *Leaves toothed*

22. Prinus. Lin.

Q. foliis petiolatis, obovatis, acutis, subtus pubescentibus, grosse dentatis, dentibus subæqualibus, dilatatis, apice callosis; glande majuscula, ovata.	Leaves on petioles, obovate, acute, pubescent underneath, coarsely toothed, teeth unequal, dilated, callous at the summit; nut large, ovate.

Sp. pl. 4. p. 439. Walt. p. 234. Mich. 2. p. 195. Pursh, 2. p. 633. Nutt. 2. p. 215.

Icon. Mich. Querc. t. 6. Mich. arb. for. 2. p. 51.

A large and magnificent tree, growing 70—80 feet in height, and 2—5 or 6 feet in diameter, with a shaft frequently 40—50 feet without branches, and a fine regular head. *Leaves* large, on petioles about an inch long, obovate or frequently oblong-lanceolate, regularly, equally and obtusely toothed, glabrous on the upper surface, slightly pubescent underneath. *Fruit* very abundant. *Nut* large, ovate. *Cup* nearly hemispherical, inclosing about one-third of the acorn, on short peduncles.

This tree grows in the same soil and situation as the Q. Alba. In the low country it is more abundant, and generally attains a large size than the White Oak. Its timber, though perhaps inferior, is generally employed indiscriminately with that species with which even in name it is often confounded. Swamp Chesnut Oak.

Flowers in April.

23. MICHAUXII.

Q. foliis petiolatis, obovatis, basi obtusis, inæqualiter dentatis, sinuatisque, subtus tomentosis; fructibus sub binis; nuce maxima, ovata.	Leaves on petioles, obovate, obtuse at base, unequally toothed and sinuate, tomentose underneath; fruit generally in pairs; nut very large, ovate.

Nutt. 2. p. 215.

A large tree found intermingled with the two preceding species. The leaves are more irregularly toothed, more obtuse at base, (sometimes slightly cordate) and much more tomentose and soft underneath, than those of the Q. Prinus; and the acorn, judging from my own specimens, are larger than those of Q. Macrocarpa.

The Q. Velutina of Mr. Kin seems to belong to this species.

Grows in rich flat lands and along the margins of swamps.

Flowers April.

24. MONTANA. Willd.

Q. foliis obovatis, acutis, subtus albo tomentosis, grosse dentatis, dentibus subæqualibus, dilatatis, apice callosis, calycibus fruc-	Leaves obovate, acute, white and tomentose underneath, coarsely toothed, teeth nearly equal, dilated, callous at the point;

tus hemisphæricis; nuce ovata.	calyx of the fruit hemispherical; nut ovate.

Sp. pl. 4. p. 440. Pursh, 2. p. 634. Nutt. 2. p. 216.
Q. Prinus Monticola, Mich. 2. p. 196.
Icon. Mich. Querc. t. 7. Mich. arb. for. p. 55.

A tree belonging to the large division of the Chesnut Oaks, but not as large as either of the preceding species. It grows from 30—50 feet high, and from 1 to 3 feet in diameter, rarely, however, attaining the largest of these dimensions. To the Q. Michauxii it has much affinity, but its leaves are more uniformly toothed, less obtuse at base, and its acorns scarcely half as large as those of that species. Its timber and bark are said by Michaux to be more valuable than those of the other Chesnut Oaks, and for fuel it is in the Northern States much prized.

Grows in rocky situations and soils, common along the base of the Alleghany Mountains.

Flowers.

25. Castanea. Muhl.

Q. foliis oblongo-lanceolatis, acuminatis, subtus tomentosis, grosse dentatis, dentibus subæqualibus, dilatatis, apice callosis; calyce fructus hemisphærico; nuce ovata.	Leaves oblong-lanceolate, acuminate, tomentose underneath, coarsely toothed, teeth nearly equal, dilated, callous at the point; calyx of the fruit hemispherical; nut ovate.

Sp. pl. 4. p. 441. Pursh, 2. p. 634. Nutt. 2. p. 216.
Q. Prinus Acuminata, Mich. 2. p. 196.
Icon. Mich. Querc. t. 7. Mich. arb. for. 2. p. 61.

A large tree growing 60—70 feet in height and 2—4 in diameter. *Leaves* on long petioles, narrower than usual among the Chesnut Oaks, acuminate, with coarse obtuse and nearly equal teeth, glabrous on the upper surface, tomentose and white underneath. *Fruit* oval, of a middling size. *Cup* hemispherical, inclosing one-third of the acorn, sessile.

This tree is disseminated rather sparingly in rich damp soils. I have never seen it in the low country. Michaux found it along the Savannah River as low down as the Sister's Ferry, about 35 miles above the city of Savannah. It is probably confounded both in name and use with the Q. Prinus and Q. Michauxii.

26. CHINQUAPIN. Mich.

Q. foliis obovatis, obtusis, glabris, grosse dentatis, dentibus subæqualibus, dilatatis, apice callosis; calyce fructus hemisphærico; nuce parva ovata.	Leaves obovate, obtuse, glabrous, coarsely toothed, teeth nearly equal, dilated, callous at the point; calyx of the fruit hemispherical; nut small, ovate.

Q. Prinus Pumila, Mich. 2. p. 196.
Q. Prinoides, Sp. pl. 4. p. 440.
Icon. Mich. Querc. t. 9. fig. 1. Mich. arb. for. p. 64.

A small shrub 3—4 feet high, *Stem* slender, smooth. *Leaves* on short petioles, oblong-lanceolate, coarsely toothed, glaucous underneath, slightly pubescent when young, glabrous when mature. *Fruit* very abundant. *Nut* very small, ovate. *Cup* sessile.

This small Oak grows in sterile rocky soils, and is most common near the base of the Mountains. According to Michaux, it rarely occurs solitary, but generally covers patches of from 50 to 100 acres, frequently intermingled with the Q. Ilicifolia, and bears its acorns so abundantly, as frequently to bend to the earth under their weight. In my specimens the fruit is very small, and more covered with the cup. than in the figure given by Michaux, arb. for. l. c.

Flowers.

CORYLUS. GEN. PL. 1450.

Masculi. *Amentum* imbricatum. *Calyx* squama. *Corolla* 0. *Stamina* 8. *Foeminei.* *Calyx* 2-partitus, lacerus. *Corolla* 0. *Styli* 2. *Nux* ovata, calyce persistente cincta.	*Sterile florets.* *Ament* imbricate. *Calyx* a scale. *Corolla* 0. *Stamens* 8. *Fertile florets.* *Calyx* 2-parted, torn. *Corolla* 0. *Styles* 2. *Nut* ovate, surrounded by the persistent calyx.

1. AMERICANA. Walt.

C. foliis subrotundis, cordatis, acuminatis;	Leaves nearly round, cordate, acuminate; ca-

calycibus fructus subrotundis, campanulatis, nuce majoribus, limbo dilatato, multifido.

lyx of the fruit nearly round, campanulate, larger than the nut, with the border dilated, many cleft.

Sp. pl. 4. p. 471. Walt. p. 236. Mich. 2. p. 201. Pursh, 2. p. 634. Nutt. 2. p. 216.

A shrub 6—8 feet high, with erect virgate branches, pubescent when young. *Leaves* alternate, on short petioles, cordate, ovate, broad, acuminate, angled, serrate, pubescent particularly on the under surface. *Aments* of sterile flowers near the summit of the branches, 1—2 inches long, scales of the calyx 3, one nearly enveloping the other two. Fertile florets axillary. *Calyx* 2-parted, persistent, with the border dilated, many cleft. *Nut* ovate, compressed, acuminate, edible.

Grows in moderately rich soils; common in the upper districts of Carolina and Georgia; found sparingly within 40 or 50 miles of the sea-coast, but never, I believe, in its immediate vicinity.

Flowers February—March.

2. ROSTRATA. Aiton.

C. foliis oblongo-ovatis ovalibusque, subcordatis, acuminatis; calycibus fructus nuce majoribus, hirsutissimis, summitate tubulosis bipartitis, laciniis incisis.

Leaves oblong-ovate and oval, slightly cordate, acuminate; calyx of the fruit larger than the nut, very hirsute, at the summit tubular and 2-parted, the segments notched.

Sp. pl. 4. p. 635. Mich. 2. p. 201. Pursh, 2. p. 635. Nutt. 2. 216.

A small shrub rarely exceeding 3—4 feet in height. *Leaves* on short petioles slightly cordate, nearly oval, acuminate, finely and doubly serrate, pubescent particularly on the under surface, thinner than those of the preceding species. *Calyx* of the fruit somewhat globular, very hirsute, terminating in a tube one and a half inches long, 2-parted for about half of its length, the summits many cleft.

Grows on the mountains of Carolina. Pursh.

Flowers March—April.

FAGUS. Gen. Pl. 1448.

Masculi. *Calyx* 5-fidus, campanulatus. *Corolla* 0. *Stamina* circiter 12.	*Sterile florets.* *Calyx* 5-cleft, campanulate. *Corolla* 0. *Stamens* about 12.
Foeminei. *Calyx* 4-dentatus, setosus. *Corolla* 0. *Germina* 2. *Nuces* 2, calyce echinato, coriaceo, quadrifido inclusæ.	*Fertile florets.* *Calyx* 4-toothed, bristly. *Corolla* 0. *Germs* 2. *Nuts* 2, inclosed in an echinate, coriaceous, 4-cleft calyx.

1. Sylvatica. Lin. Var. Americana.

F. foliis ovatis, acuminatis, leviter dentatis, margine ciliatis, basi acutis; nucibus ovato triquetris, obtusis cum mucrone.	Leaves ovate, acuminate, slightly toothed, fringed along the margin, acute at base; nuts ovate-triquetrous, obtuse but mucronate.

Sp. pl. 4. p. 459. Walt. p. 233. Pursh, 2. p. 624. Nutt. 2. p. 216.
F. Sylvestris, Mich. 2. p. 194.
Icon. Mich. arb. for. 2. p. 170.

A large and beautiful tree, growing sometimes from 50 to 60 feet in height, and 2 to 3 in diameter. The trunk covered with a smooth white bark, branches numerous, and forming a very compact handsome head. *Leaves* alternate on short petioles, oval, lanceolate, acuminate, ribbed, serrate. *Aments* or *Spikes* of sterile florets, somewhat terminal or on short peduncles, fertile florets axillary, very small. *Calyx* persistent, somewhat like those of the chinquapin, but 4-cleft, and the spines weak and flexible. *Seeds* generally triquetrous.

This is one of the handsomest of our forest trees. The verdure of its leaves in the Spring surpasses in delicacy and beauty that of any other of our trees. The grain of its wood is fine and close, yet it is but little used, as the dog wood (Cornus Florida) and some other of our close grained trees, surpass it much in strength and durability.

It grows in damp and rich soils, and where the substratum is clay, the soil is generally as durable as it is fertile. Where the substratum however is as is frequently the case in the low country of white sand, no soil is more speedily exhausted.

Flowers March—April.

CASTANEA. Tournefort.

Masculi. *Amentum* nudum. *Calyx* 0. *Corolla* 5-petala. *Stamina* 10—20.

Foeminei. *Calyx* 5—6 phyllus, muricatus. *Corolla* 0. *Germina* 3. *Stigmata* penicilliformia. *Nuces* 1—3, calyce echinato inclusæ.

Sterile florets. *Ament* naked. *Calyx* 0. *Corolla* five-petalled. *Stamens* 10—20.

Fertile florets. *Calyx* 5—6 leaved, muricate. *Corolla* 0. *Germs* 3. *Stigmas* feathered. *Nuts* 1—3, included in an echinate calyx.

1. VESCA. Var. Americana.

C. foliis lanceolatis, acuminatis, mucronato-serratis, utrinque glabris.

Leaves lanceolate, acuminate, mucronately serrate, glabrous on both surfaces.

Sp. pl. 4. 459. Mich. 2. p. 193. Pursh, 2. p. 624. Nutt. 2. p. 217.
Fagus Castanea, Lin. Walt. p. 233.
Icon. Mich. arb. for. 2. p. 156.

A very large tree, growing sometimes from 60—70 feet in height, and 3—5 feet in diameter, the trunk generally erect and straight, the branches often irregular. *Leaves* large, oblong-lanceolate, pubescent underneath when young, very glabrous when old. *Spikes* or *Aments* of sterile flowers, axillary, very long, florets in small clusters, mostly dodecandrous, but varying from 5—20 stamens. *Corolla* 6-parted, somewhat lateral. *Stamens* longer than the corolla. Fertile Spikes 2—3 together, short, thick. *Calyx* or *Involucrum* 2—3 flowered, solitary, squamose, at length muricate. *Corolla* tubular, irregularly 6—8-parted. *Style* 1. *Stigmas* numerous, rigid and white. Abortive stamens about 12. *Nuts* generally 3, enclosed in the persistent and spinous involucrum. Nuttall.

The wood of this tree is very extensively used; it is supposed to resist vicissitudes of the weather better than that of most of our forest trees, and is therefore employed wherever that quality is particularly required.

Grows very abundantly in dry, stony, gravelly ridges; not found along the sea-coast.

Flowers April—May.

2. PUMILA.

C. foliis oblongis, acutis, mucronato-serratis, subtus albo tomentosis.	Leaves oblong, acute, mucronately serrate, tomentose and hoary underneath.

Sp. pl. 4. p. 461. Mich. 2. p. 193. Pursh. 2. p. 624. Nutt. 217.
Fagus Pumila, var. Serotina, Walt. p. 233.
Icon. Mich. arb. for. 2. p. 166.

A small tree, sometimes growing 30—40 feet in height, and 12—15 inches in diameter, but more commonly assuming the form of a shrub from 12—15 feet in height. *Leaves* much smaller than those of the preceding species, oval and obovate, mucronately serrate, tomentose underneath, and as in all of this genus, very regularly ribbed. Fertile florets generally 1 in each involucrum; if more, the rest commonly prove abortive. *Nut* small, ovate, acute, enclosed in the spiny involucrum.

The wood of the Chinquapin, whenever it can be obtained large enough for posts, is much valued, as it is supposed to be more durable when exposed to the weather than any of our trees, excepting the Red Cedar.

Grows in light fertile soils; very abundant near the sea-coast; I believe rare in the upper country.

Flowers in May.

3. NANA. Muhl.

C. humilis; foliis ovali-lanceolatis, subobtusis, mucronato-serratis, supra nitidis subtus sub-tomentosis.	A small shrub; leaves oval-lanceolate, rather obtuse, mucronately serrate, shining on the upper surface, slightly tomentose underneath.

C. Alnifolia, Nutt. 2. p. 217.
Fagus Pumila, var. Præcox, Walt. p. 233.

This small shrub rarely if ever exceeds 2 feet in height; it grows in small patches with creeping roots; its leaves are larger than those of the preceding species, more glossy on the upper surface, less tomentose underneath, and much more irregularly ribbed, and consequently serrate; involucrum of the fertile florets 1—3, on the lower part sterile. *Ament*, generally maturing, as in the preceding species. Only 1 nut.

The low-bush Chinquapin grows in sandy pine barrens. The nut is generally much larger, but less abundant than those of the preceding species.

Flowers May.

BETULA. Gen. Pl. 1419.

Masculi. Amentum imbricatum, squamis peltatis, trifloris. *Calyx* squama. *Corolla* 0. *Stamina* 10—12.

Foeminei. Amentum imbricatum. *Calyx* squama biflora. *Corolla* 0. *Semen* 1, alatum.

Sterile florets. Ament imbricate, scales peltate, three-flowered. *Calyx* a scale. *Corolla* 0. *Stamens* 10—12.

Fertile florets. Ament imbricate. *Calyx* a scale 2-flowered. *Corolla* 0. *Seed* 1, winged.

1. Nigra. Lin.

B. foliis rhombeo-ovatis, duplicato-serratis, acutis, subtus pubescentibus, basi integris; amentis foemineis ovatis, squamis villosis, laciniis linearibus æqualibus.

Leaves rhomboidal, ovate, doubly serrate, acute, pubescent underneath, entire at base; fertile aments ovate, the scales villous, the segments linear equal.

Sp. pl. 4. p. 464. Pursh, 2. p. 621. Nutt. 2. p. 218.
B. Alba, Walt. p. 231?
B. Lanulosa, Mich, 2. p. 181.
B. Rubra, Mich. arb. for. 2. p. 142.

A tree growing commonly 30—40 feet, and from 1—2 feet in diameter, though sometimes attaining a much greater size; the trunk covered with a smooth scaly bark, the branches long and flexible. *Leaves* on short petioles, ovate, acuminate, somewhat angled and acutely serrate, very pubescent underneath when young. *Fruit* in small oval aments, scales 3-cleft villous, the segments equal.

Grows along the margins of rivers whenever the soil is wet and sandy. The wood, I believe, is very little used in the Southern States.

Flowers March.

2. Lenta.

B. foliis cordato-ovatis, argute serratis, acuminatis, nervis subtus petiolisque pilosis; amenti squamis glabris, lobis obtusis æqualibus elevato-venosis.	Leaves cordate ovate, acutely serrate, acuminate, nerves underneath and petioles hairy; scales of the ament glabrous, lobes obtuse, equal, with elevated veins.

Sp. pl. 4. p. 464. Pursh, 2. p. 621. Nutt. 2. p. 218.
B. Carpinifolia, Mich. 2. p. 181.
Icon. Mich. arb. for. 2. p. 147.

A tree sometimes growing 70 feet in height and 2—3 in diameter, with long slender branches frequently speckled when young. *Leaves* on petioles about an inch long, ovate, cordate, acuminate, finely and acutely serrate, very hairy along the mid rib and veins. Sterile ament 3—4 inches long, pendulous; fertile cylindrical, about an inch long, terminating the small branches. *Scales* with divaricate lobes strongly veined.

The wood of this tree possesses a fine and handsome grain susceptible of polish. It is therefore valued when it grows freely, and is used for many of the purposes of the Cabinet-Maker. It has been called from the quality and colour of its wood Mountain Mahogany, or Cherry Birch.

Grows along the borders of mountain torrents. In the Southern States, only found among the ridges of the Alleghany Mountains. Mich.

Flowers May. Pursh.

CARPINUS. Gen. Pl. 1449.

Masculi. *Amentum* imbricatum. *Calyx* squama. *Corolla* 0. *Stamina* 10.	*Sterile florets.* *Ament* imbricate. *Calyx* a scale. *Corolla* 0. *Stamens* 10.
Foeminei. *Amentum* imbricatum. *Calyx* squama biflora. *Corolla* trifida. *Nux* ovata, sulcata.	*Fertile florets.* *Ament* imbricate. *Calyx* a two-flowered scale. *Corolla* 3-cleft. *Nut* ovate, furrowed.

1. Americana. Mich.

C. foliis oblongo-ovatis, acuminatis, inæqualiter serratis; strobilorum squamis tripartitis, lacinia intermedia obliqua, ovato-lanceolata, uno latere dentata.

Leaves oblong ovate, acuminate, unequally serrate; scales of the strobilus three-parted, the middle segment oblique, ovate-lanceolate, toothed on one side.

Sp. pl. 4. p. 468. Mich. 2. p. 210. Pursh, 2. p. 623. Nutt. 2. p. 218. C. Caroliniana, Walt. p. 236.

A small tree rarely exceeding 20 feet in height or 6—8 inches in diameter. *Leaves* alternate on short petioles, oval-lanceolate, acuminate, finely serrate, ribbed, a little hairy along the veins. *Aments* axillary and terminal; fertile ament generally terminating the small branches, pendulous, sometimes leafy. *Style* 1. *Stigmas* 2. *Scales* of the strobilus increasing as the fruit matures, resembling leaves 3-lobed, the middle one large ovate, serrate on one side. *Nut* small, ovate, acuminate, nerved, very hard.

Grows in rich soils.

Flowers March—April.

OSTRYA. Micheli.

Masculi. *Amentum* imbricatum. *Calyx* squama. *Corolla* 0. *Filamenta* ramosa.

Foeminei. *Amentum* nudum. *Calyx* 0. *Corolla* 0. *Capsulæ* inflatæ, imbricatæ, monospermæ.

Sterile floret. *Ament* imbricate. *Calyx* a scale. *Corolla* 0. *Filaments* branching.

Fertile florets. *Ament* naked. *Calyx* 0. *Corolla* 0. *Capsules* inflated, imbricate, one-seeded.

1. Virginica. Willd.

O. foliis ovato-oblongis, basi sub cordatis, acuminatis, inæqualiter

Leaves ovate-oblong, slightly cordate at base, acuminate, uneserratis, strobilis oblongo-ovatis, erectis, geminis, acutis.

qually serrate, strobilus oblong-ovate, erect, acute, generally in pairs.

Sp. pl. 4. p. 469. Pursh, 2. p. 623. Nutt. 2. p. 219.
Carpinus Ostrya, Mich. 2. p. 202.

A small tree 20—30 feet in height and 8—12 inches in diameter, sometimes though rarely exceeding these dimensions. *Leaves* on very short petioles, oval-lanceolate, acuminate, cordate at base, finely serrate, a little-pubescent along the veins and particularly in the axils. *Aments* terminal and axillary. Fertile ament erect, composed of ovate inflated capsules, very hairy at base, imbricate and containing one seed.

The grain of this wood is close and so compact and hard, that it has acquired the popular name of Iron Wood. It is well adapted for cogs in Mill wheels, and for many other uses where a strong fine-grained wood is required. But it is so much less common than the Dog Wood, (Cornus Florida) that it appears to be but little used or sought after.

Grows in fertile soils.

Flowers March—April.

PLATANUS. Gen. Pl. 1451.

Masculi. *Amentum* globosum. *Calyx* 0. *Corolla* vix manifesta. *Antheræ* filamentum circumnatæ.

Foeminei. *Amentum* globosum. *Calyx* polyphyllus. *Corolla* 0. *Styli* stigmate recurvo. *Capsula* subclavata, 1-sperma, stylo mucronata, basi papposa.

Sterile florets. *Ament* globular. *Calyx* 0. *Corolla* scarcely manifest. *Anthers* growing round the filament.

Fertile florets. *Ament* globular. *Calyx* many leaved. *Corolla* 0. *Styles* with a recurved stigma. *Capsule* somewhat clavate, 1-seeded, pointed with the style, hairy at base.

1. OCCIDENTALIS. Lin.

P. foliis quinquangularibus, obsolete lobatis, dentatis, subtus pubescentibus; ramulis albescentibus.

Leaves 5-angled, obscurely lobed, toothed, pubescent underneath; branches nearly white.

Sp. pl. 4. p. 474. Walt. p. 237. Mich. 2. p. 163. Pursh, 2. p. 635. Nutt. 2. p. 219.

Icon. Mich. arb. for 3. p.

This is one of the largest trees of the American forest. In the low country of Carolina, where it is rather scarce, it rarely exceeds 3 feet in diameter by 70—80 in height; but in the fertile vallies of the Ohio, it is said by Michaux to have been found from 13 to 16 feet in diameter, and frequently with an undivided trunk of from 60 to 70 feet in height. *Leaves* alternate on long petioles, cordate, nearly round, acuminate, angled and toothed with the nerves almost tomentose. *Aments* axillary on long peduncles, globular. *Seed* forming a compact ball on a spherical receptacle.

This tree is generally distinguished in this country as the Sycamore; to the Northward it is commonly called the Button Wood. Its wood is soft, and when exposed to the weather not durable, and is excelled in many respects by so many of our other forest trees, that it is only as an ornamental tree that it is now valued.

Grows in damp fertile soils.

Flowers March—April.

LIQUIDAMBAR. GEN. PL.

Masculi. *Amentum* conicum, involucro 4-phyllo cinctum. *Calyx* 0. *Corolla* 0. *Filamenta* numerosa.

Foeminei. *Amentum* globosum, involucro 4-phyllo cinctum. *Calyx* 1-phyllus, urceolatus. *Corolla* 0. *Styli* 2. *Capsulæ* 2, calyce basi

Sterile florets. *Ament* conical, surrounded by a 4-leaved involucrum. *Calyx* 0. *Corolla* 0. *Filaments* numerous.

Fertile florets. *Ament* globular, surrounded by a 4-leaved involucrum. *Calyx* 1-leaved, urceolate. *Co-*

cinctæ, uni-loculares, polyspermæ.

rolla 0. *Styles* 2 *Capsules* 2, one-celled, many seeded, surrounded at base by the calyx.

1. STYRACIFLUA. Lin.

L. foliis palmato-lobatis, lobis acuminatis, serratis, sinubus baseos venarum villosis.

Leaves palmately lobed, lobes acuminate, serrate, with the sinuses at the base of the veins villous.

Sp. pl. 4. p. 475. Walt. p. 237. Mich. 2. p. 202. Pursh, 2. p. 635. Nutt. 2. p. 219.

Icon. Mich. arb. for. 3. p. 194.

A large tree 70—80 feet in height, and 2—4 in diameter. *Leaves* alternate on petioles 2—3 inches long, palmately lobed, and cordate, the lobes acuminate and serrate, when young sprinkled with a few hairs; when old, hairy only in the axils of the leaves. Sterile ament terminating the small branches, ovate, composed of globular heads. *Stamens* numerous. Fertile ament globular near the base of the sterile. *Calyx* glandular. *Germs* numerous. *Styles* 2, thick. *Stigmas* obtuse. (Ament at length ligneous and alveolate, capsules by pairs inserted in the alveoli, 1-celled, 1-valved, folliculate, internally lined with collateral rows of angular scrobiform deciduous bodies, applied to the few winged and perfect seeds, Nuttall.)

The leaves of this tree when bruised are fragrant, and it exudes a gum which is pleasant and slightly aromatic. Its wood decays rapidly when exposed to the weather; and though fine grained and adapted to some of the uses of the Carpenter and Cabinet-Maker, it is yet but little employed.

Grows every where in wet and damp soils. Attains its greatest size in our river swamps.

Flowers March and April.

JUGLANS. GEN. PL. 1446.

Masculi. Amentum imbricatum. *Calyx* squama. *Corolla* 5—6 partita. *Filamenta* plurima (18—36.)

Sterile florets. Ament imbricate. *Calyx* a scale. *Corolla* 5—6 parted. *Filaments* numerous (18—36.)

Foeminei. *Calyx* 4-fidus, superus. *Corolla* 5-fida. *Styli* 2. *Drupa* coriacea, sub-spongiosa. *Nux* rugosa irregulariterque sulcata.

Fertile florets. *Calyx* 4-cleft. *Styles* 2. *Drupe* coriaceous, somewhat spongy. *Nut* rugose, irregularly furrowed.

1. NIGRA.

J. foliolis numerosis, ovato-lanceolatis, serratis, subcordatis, superne augustatis, subtus petiolisque sub-pubescentibus; fructibus globosis, scabro-punctatis.

Leaves numerous, ovate-lanceolate, serrate, slightly cordate, tapering to the summit, the under surface and petioles slightly pubescent; fruit globular, scabrous, dotted.

Sp. pl. 4. p. 456. Walt. p. 235. Mich. 2. p. 191. Pursh, 2. p. 636. Nutt. 2. p. 220.

Icon. Mich. arb. for. 1. p. 157.

A large tree growing 50—60 feet in height, and 2-4 in diameter, with a large and spreading head when permitted to expand freely. *Leaves* alternate, pinnate, the leaflets numerous, (15—21) ovate lanceolate, somewhat cordate or unequal at base, the partial petioles very short, and with the underside of the leaves very pubescent when young. *Aments* of sterile flowers axillary near the termination of the last year's wood, simple, two or three inches long; fertile florets terminal. *Fruit* spherical, covered with a thick spongy undivided pericarp, externally dotted and scabrous, which decays after heavy frosts, and exposes the black corrugated nut.

The timber of the black walnut is compact, fine grained, heavy and dark coloured when exposed to the air. It is now much valued; and were it not for the facility with which mahogany is obtained, it would form a great portion of the furniture of our houses. The fruit is well tasted, and is very commonly introduced on our tables.

This tree grows only in the richest soils. It is sparingly disseminated along the sea-coast; more frequent, I believe, in the vallies near the Mountains.

Flowers April.

2. CINEREA. Lin.

J. foliis numerosis, lanceolatis, serratis,

Leaves numerous, lanceolate, serrate,

basi rotundatis, subtus pubescenti - mollibus, petiolis villosis; fructibus oblongo-ovatis, nuce oblonga acuminata, insigniter insculpta.

round at base, pubescent and soft underneath; petioles villous; fruit oblong ovate; nut oblong acuminate, conspicuously sculptured.

Sp. pl. 4. p. 456. Walt. p. 235. Mich. 2. p. 191. Pursh, 2. p. 636. Nutt. 2. p. 220.

Icon. J. Cathartica, Mich. arb. for. 1. p. 165.

This species becomes also a large tree, and bears much resemblance to the preceding. Its leaves are pinnate, leaflets oblong-lanceolate, (15—19) very pubescent. The habit and fructification very similar to that of the preceding species, but the fruit is oblong, with a protuberant summit; the nut oblong, acuminate, much more deeply and irregularly sculptured. The wood, though somewhat similar to that of the Black Walnut, is said to be inferior. The decoction of its bark has long been used and celebrated in the Northern States as a cathartic medicine. Its nuts are so oily and so soon grow rancid, that I believe they are never eaten.

This tree, so commonly known to the inhabitants of the United States as the Butter-Nut, is said by Michaux to inhabit the mountains of Carolina and Georgia. I believe it has never been found along the sea-coast of these two States.

Grows in fertile soils.

Flowers in April.

CARYA. NUTTALL.

Masculi. Amentum imbricatum, compositum. *Calyx* squama. *Corolla* 0. *Stamina* 4—8.

Foeminei. Calyx 4-fidus, superus. *Corolla* 0. *Stylus* 0. *Stigma* 4-lobatum. *Pericarpium* quadrivalve. *Nux* subquadrangularis, lævis.

Sterile florets. Ament imbricate, compound. *Calyx* a scale. *Corolla* 0. *Stamens* 4—8.

Fertile florets. Calyx 4-cleft, superior. *Corolla* 0. *Style* 0. *Stigma* 4-lobed. *Pericarp* 4-valved. *Nut* somewhat quadrangular, smooth.

1. SULCATA. Willd.

C. foliolis subnovenis, obovato-lanceolatis, acuminatis, serratis, subtus pubescentibus; fructibus subrotundis 4-carinatis, nuce oblonga, læviter compressa, longe mucronata.	Leaflets generally 9, obovate-lanceolate, acuminate, serrate, pubescent underneath; fruit nearly round, 4-angled, nut oblong, slightly compressed, conspicuously mucronate.

Juglans Sulcata, Sp. pl. 4. p. 457. Pursh, 2. p. 637.
J. Mucronata, Mich. 2. p. 192.
Icon. J. Laciniosa, Mich. arb. for. 1. p. 199.

A large tree when growing in fertile soils, 60—80 feet high, 2—4 feet in diameter. *Leaves* pinnate, leaflets 7—9. Sterile aments 3-parted, pendulous, 4 to 6 inches long. *Scales* 3-parted. *Stamens* 4—6. Fertile florets terminal. *Nut* oblong, conspicuously pointed, with a tapering summit, angled, covered with a very thick, 4-parted pericarp.

This, like all of the other species of Hickory, grows only in fertile soils. It is rare in the low country of Carolina; but the greater part of our hickories resemble each other so closely in their leaves, and vary so much in their fruit, that it is very difficult to discriminate the species. This is remarkable for the thickness of its pericarp, from whence it is frequently called "thick-shelled Hickory. Its nuts are well flavoured.

Flowers April.

2. ALBA. Lin

C. foliolis quinis septenisve, longe petiolatis, oblongo-lanceolatis, acuminatis, argute serratis, subtus villosis; amentis filiformibus, glabris; fructibus depresso-globosis; nuce compressa.	Leaflets 5 or 7, on long petioles, oblong-lanceolate, acuminate, sharply serrate, villous underneath; aments filiform, glabrous; fruit depressed, globular; nut compressed.

Nutt. 2. p. 221.
Juglans Alba, Lin. Sp. pl. ed. prior, p. 14—15. Mich. 2. p. 193. Pursh, 2. p. 637.

Juglans Compressa, Willd. Sp. pl. 4. p. 458.
Icon. J. Squamosa, Mich. arb. for. 1. p. 190.

One of the largest and most valuable trees of this genus, remarkable for the exfoliation of the epidermis in old trees, whence it has acquired the name of shag or shaggy-barked Hickory. *Leaves* alternate, pinnate, leaflets 5—7, large, oblong-lanceolate, acuminate, finely serrate. *Ament* of the sterile florets 3-parted, long, pendulous. Female flowers terminal. *Nut* nearly spherical, with two sides flattened and somewhat angled, the shell thinner than that of most of the other species of this genus. *Pericarp* thin, 4-parted, globular, depressed at the summit.

The timber of this tree is much used and valued wherever a close grained, strong, elastic fibre is required. It decays, however, quickly when exposed to the weather. Its nuts are preferred for the table to those of any other species.

Grows in fertile soils. I have never seen it along the sea-coast of Carolina or Georgia. Around Columbia, however, it begins to appear, and probably multiplies as you approach the Mountains.

Flowers April.

3. Tomentosa. Michaux.

C. foliolis sub-septenis novenisve, obovato-lanceolatis, acuminatis, læviter serratis, subtus pubentissimis, sub-scabris; amentis filiformibus, tomentosis; fructibus sub-globosis, lævibus; nuce sub-sexangulata, putamine crassa durissima.

Leaflets generally 7 or 9, obovate-lanceolate, acuminate, slightly serrate, pubescent underneath, slightly scabrous; ament filiform, tomentose; fruit nearly spherical, smooth; nut somewhat 6-angled, the shell thick and very hard.

Nuttall, 2. p. 221.
Juglans Tomentosa, Mich. 2. p. 192. Pursh, 2. p. 637.
J. Alba, Willd. Sp. pl. 4. p. 457. Walt. p. 235.
Icon. Mich. arb. for. 1. p. 184.

A large tree. *Leaves* pinnate, leaflets sometimes only 5, generally 7, pubescent on the upper surface along the veins, very pubescent underneath, almost tomentose; pubescence, as in all of the species of this genus, stellular. *Ament* of the sterile florets 3-parted, long, very tomentose. (*Scales* 2-parted, and with a dorsal bractea resembling a 3-parted calyx?) *Stamens* 8. *Fruit* large. *Nut* compressed, somewhat oval, with 4 prominent angles on the sides, and 2 obscure ones on the ends. *Pericarp* thick, separating into 4 parts.

This is the most common species of this genus in the Southern States, and that which is in general exclusively meant by the generic name of Hickory; all of the other species have some peculiar epithet to distinguish them. The wood of this species, like that of the preceding, is used for many purposes by the Wheelwright, Millwright and Carpenter, and for fuel, the different species of hickory are preferred in this country to all other wood, one or two species of oak perhaps excepted. The nut of this species is well flavoured.

The variety Maxima, Nutt. distinguished by its very large fruit, grows, though sparingly, on the sea-islands.

It is certainly singular, that shoots of this species of Carya should be found disseminated over extensive tracts of pine barren, where it is very rare to discover a tree large enough to bear fruit. They are called Hickory Grubs, and are supposed to indicate a soil adapted for cultivation.

Grows in rich soils.

Flowers April.

4. Amara. Mich.

C. foliolis subnovenis, ovato-oblongis, acuminatis, argute serratis, utrinque glabris; fructibus sub-globosis, nuce lævi, mucronata; putamine fragili.

Leaflets generally 9, ovate oblong, acuminate, acutely serrate, glabrous on both surfaces; fruit nearly spherical; nut smooth, mucronate, with the shell fragile.

Nutt. 2. p. 222.
Juglans Amara. Pursh, 2. p. 638.
Icon. Mich. arb. for. 1. p. 177.

A large tree. *Leaves* pinnate, leaflets generally 9, sessile, oblong-lanceolate, large, acutely serrate, glabrous on both surfaces, except the nerves and midrib, which are pubescent, almost tomentose. *Fruit* globular, the nut almost obcordate, very bitter, enclosed in a pericarp which in general is only divided to the middle.

This species grows generally in very flat rich soils; and in the Southern States is, I believe as remarked by Michaux, universally confounded with the next species.

Flowers April.

5. PORCINA. Mich.

C. foliolis sub-septenis, lanceolatis, acuminatis, serratis, utrinque glabris, fructibus parvulis; nuce lævi, durissima.	Leaflets generally 7, lanceolate, acuminate, serrate, glabrous on both surfaces; fruit small; nut smooth, very hard.

Nutt. 2. p. 222.
Juglans Porcina, Pursh, 2. p. 638.
J. Obcordata and J. Glabra, Willd. Sp. pl. 4. p. 458.
Icon. Mich. arb. for. 1. p. 206.

A very large tree, growing 70—80 feet in height, and in favourable soils frequently occurring 3—4 feet in diameter. *Leaves* pinnate, leaflets 7—9; smaller, narrower, and more glabrous than those of the C. Tomentosa. *Fruit* small, varying much. *Nut* oblong or spherical, very bitter, with a hard shell.

This tree, in the low country of Carolina and Georgia, generally grows to a larger size than any other species. It is found along the margins of swamps, or on the flat knowls with which our swamps are frequently broken, and is commonly known as the Swamp or Pignut Hickory.

Flowers April.

6. AQUATICA. Mich.

C. foliolis sub-undenis, angusto oblique-lanceolatis, acuminatis, sub-serratis, glabris sessilibus; fructibus pedunculatis, ovatis, suturis 4, prominulis, nuce subrotunda, compressa.	Leaflets generally eleven, narrow and obliquely lanceolate, acuminate, slightly serrate, glabrous, sessile; fruit on peduncles, ovate, sutures 4, prominent; nut nearly round, compressed.

Pursh, 2. p. 638. Nutt. 2. p. 222.
Mich. arb. for. 1. p. 182.

A tree growing 40—50 feet high, and resembling in its habit the other species of this genus. *Leaves* pinnate, leaflets 9—13 long, very narrow and obliquely lanceolate, very acute, slightly acuminate, serrate, more glabrous than those of any other species of Carya, except the midrib, which is tomentose, the lateral ones sessile, the terminal petiolate. *Fruit* on short peduncles, ovate, nearly round. *Pericarp* and *Nut* both with prominent angles; shell of the nut thin, kernel very bitter.

This tree is, I believe, exclusively confined to swamps. In the midst of forests it is easily overlooked and confounded with other species. But it is very frequently found on the margin of rivers hanging over the stream, and is then generally a crooked, stunted tree.

Grows very abundantly along the Ogeechee River.

Flowers April.

7. MYRISTICÆFORMIS. Mich.

C. foliolis quinis, ovato-lanceolatis, acuminatis, serratis, glabris, impari sub-sessili; fructibus ovalibus, rugoso-scabris; nuce ovali; brevi-acuminata, sulcato-lineata, durissima.	Leaflets 5, ovate-lanceolate, acuminate, serrate, glabrous, the terminal one sessile; fruit oval, rugose, scabrous, nut oval, slightly acuminate, furrowed, very hard.

Pursh, 2. p. 638. Nutt. 2. p. 222.
Icon. Mich. arb. for. 1. p. 211.

Nothing is yet known of this species but what is contained in the very valuable work of Michaux the younger, on the Forest Trees of North America.

The specimens of the tree and nut which he obtained in Charleston, had been collected on Mr. Izard's plantation near Goose Creek, and appear to be sufficiently distinct from the Pignut Hickory. Many searches have since been unsuccessfully made for this tree; and we only notice it to invite the further inquiries of those who feel an interest in our Botany.

Flowers probably in April.

ARUM. GEN. PL. 1387.

Spatha monophylla, cucullata. *Spadix* supra nudus, inferne foemineus, medio stamineus. *Calyx* et *Corolla* 0. *Bacca* 1 aut polysperma.	*Spathe* one-leaved, cucullate. *Spadix* naked at the summit, bearing sterile florets in the middle, fertile beneath. *Calyx* and *Corolla* 0. *Berry* one or more seeded.

1. DRACONTIUM. Lin.

A. acaule; foliis pedatis, foliolis lanceolatis, oblongis, integerrimis; spadice subulato, spatha oblonga convoluta longiore.	Stemless; leaves pedate, leaflets lanceolate oblong, entire; spadix subulate, longer than the oblong convolute spathe.

Sp. pl. 4. p. 478. Walt. p. 224. Mich. 2. p. 188. Pursh, 2. p. 399. Nutt. 2. p. 222.

Root tuberous, perennial. *Stem* 0. *Leaf* 1? *Petiole* twelve to eighteen inches high, sheathing for one half of its length the scape, and terminating in a pedate leaf (or rather dichotomous) at the summit, each branch bearing 4 or 5 leaflets, and 1 always in the division of the petiole. *Leaflets* oblong-lanceolate, slightly acuminate, glabrous, thin, very entire. *Scape* 1, nearly a foot long. *Spathe* short, convolute. *Spadix* bearing fertile flowers at base, crowded with stamens immediately above, and terminating in a naked subulate summit 4—6 inches long. *Seeds*—

This species grows in rich lands, generally in high river swamps.

Flowers—

2. QUINATUM. Nutt.

A. acaule? foliis quinatis, lanceolatis, acuminatis.	Stemless; leaves quinate, lanceolate, acuminate.

Nutt. 2. p. 222.

With this species I am unacquainted. It was discovered by Dr. Baldwin in the southern district of Georgia, and appears to be nearly allied to the A. Triphyllum.

Flowers—

3. TRIPHYLLUM. Lin.

A. acaule; foliis ternatis, foliolis ovatis, acuminatis, integerrimis; spadice clavato, spatha ovata acumina-	Stemless; leaves ternate, leaflets ovate, acuminate, entire; spadix clavate, about half as long as the ovate, a-

ta, plana, pedunculata, dimidio-breviore; spadicibus foemineis staminiferisque plerumque distinctis.

cuminate, flat, pedunculate spathe; fertile and sterile spadix frequently distinct.

Sp. pl. 4. p. 480. Walt. p. 224. Mich. 2. p. 188. Pursh 2. p. 399. Nutt. 2. p. 222.

Root tuberous, perennial. *Stem* 0. *Petioles* about 1 foot high, sheathing at base, and inclosing the base of the scape, and sometimes of younger leaves. *Leaves* ternate, leaflets oval-lanceolate, acuminate, entire, glabrous, the lateral ones sometimes oblique. *Scape* 8—12 inches high. *Spathe* at base somewhat tubular, expanding at the summit into a flat ovate, acuminate, blade. *Spadix* scarcely longer than the tube of the spathe, bearing generally either germs or stamens near the base, the summit thick cylindrical or clavate. *Berries* scarlet, 3—4 seeded.

The sterile and fertile scapes are said to grow from the same root, (Lin.) more probably dioecious, (Nutt.)

The spathe is sometimes purple handsomely striped with white; sometimes green with a purple border; sometimes green.

Grows in rich soils generally in shaded places.

Flowers March.

4. VIRGINICUM. Lin.

A. acaule; foliis oblongis, hastato cordatis, acutis, lobis obtusis, spatha elongata incurva; spadice superne longius masculifloro.

Stemless; leaves oblong, hastate cordate, acute, with the lobes obtuse; spathe long, incurved; spadix for a long distance from the summit bearing sterile flowers.

Sp. pl. 4. p. 484. Walt. p. 224. Pursh 2. p. 399. Nutt. 2. p. 222. Calla Virginica, Mich. 2. p. 187.

Root tuberous perennial. *Leaves* 12—15 inches long, slightly acuminate, entire, very glabrous, cordate, with the lobes sometimes hastate, sometimes straight, generally obtuse. *Petioles* nearly 12 inches long, sheathing the scape at base. *Scapes* many from one root 12—18 inches long. *Spathe* ong, acute, slightly repand or undulate along the margin, closely embracing the spadix. *Spadix* nearly as long as the spathe. *Berry* many seeded.

Grows in swamps and marshy soils, very common.

Flowers April—May

5. WALTERI?

A. acaule foliis sagittatis, triangulis, angulis divaricatis, acutis.

Stemless; leaves sagittate, triangular, the angles divaricate, acute.

A. Sagittifolium, Walt. p. 224.

Intermingled with the preceding species is found the one which I have always supposed to be the A. Sagittifolium of Walter. The leaves, when fully grown, are larger than those of A. Virginicum, triangular, with divaricate long, very acute lobes. Between the mature leaves of this and the preceding species the distinction is strong, the young and small leaves frequently resemble each other. In the spathe and spadix I have noticed no difference.

Grows in swamps.

Flowers April—May.

CALADIUM. Ventenat.

Masculi. *Calyx* 0. *Corolla* 0. *Antheræ* peltatæ, multiloculares, in spicam ad apicem spadicis compositæ.

Foeminei. *Calyx* 0. *Corolla* 0. *Germina* ad basin spadicis inserta. *Stylus* 0. *Bacca* unilocularis, polysperma.

Sterile florets. *Calyx* 0. *Corolla* 0. *Anthers* peltate, many celled, collected in a spike at the summit of the spadix.

Fertile Florets. *Calyx* 0. *Corolla* 0. *Germs* inserted at the base of the spadix. *Style* 0. *Berry* one-celled, many seeded.

1. GLAUCUM? E.

C. acaule; foliis glaucis, hastato cordatis, acuminatis, lobis oblongis, obtusis; spatha cucullata, superne ovali-

Stemless; leaves glaucous, hastate cordate, acuminate, lobes oblong, obtuse, spathe cucullate, the summit

lanceolata, alba, spadice longiore.	oval-lanceolate, white, longer than the spadix.

Caladium Sagittifolium, Nutt. 2. p. 222.
Calla Sagittifolia, Mich. 2. p. 187.
Arum Sagittifolium, Pursh 2. p. 399.

Root tuberous, perennial. *Petioles* 12—15 inches long. *Leaves* hastate cordate, abruptly acuminate, entire, glaucous particularly on the under surface, the lobes long, slightly divaricate, generally obtuse, and with the leaf from 5—7 inches long. *Scape* about as long as the petioles. *Spathe* somewhat tubular at base, dilated at the summit, cucullate, very white. *Spadix* longer than the tube. Female florets at base. *Male flowers* numerous, extending to the summit of the spadix. *Anthers* many (covered by a peltate operculum?) *Berries* many seeded, red?

This plant is certainly neither of the species of Esculent Arum to which Linnæus refers. It is smaller than the Arum Virginicum, and like the Calla Ethiopica, which it somewhat resembles, merits culture as an ornamental plant. Considering it a North-American species, I have ventured to impose on it a new name.

In the low country of Carolina and Georgia it is rare. I have only seen it in the neighbourhood of Savannah, where it formerly grew abundantly about a mile to the south-east of the city, in springing, spungy soils.

Flowers May—June.

PINUS. Gen. Pl. 1451.

Masculi. *Calyx* 4-phyllus. *Corolla* 0. *Stamina* plurima. *Antheræ* nudæ.	*Sterile florets.* *Calyx* 4-leaved. *Corolla* 0. *Stamens* numerous. *Anthers* naked.
Foeminei. *Calyx* strobilus sive conus. *Squama* 2-flora. *Corolla* 0. *Pistillum* 1. *Nux* ala membranacea aucta.	*Fertile florets.* *Calyx* a strobilus or cone, the scales 2-flowered. *Corolla* 0. *Pistil* 1. *Nut* enlarged by a membranaceous wing.

* *Pinus.* *Squamis strobili apice incrassatis, angulosis et umbilicatis.*	* *Pines.* *Scales of the cone thickened at the summit, angled and umbilicate.*

1. INOPS. Aiton.

P. foliis brevibus geminis; strobilis recurvis, oblongo-conicis, longitudine foliorum, aculeis squamarum subulatis, rectis.

Leaves short by pairs; cones recurved, oblong, as long as the leaves, spines of the scales subulate, straight.

Sp. pl. 4. p. 496. Mich. 2. p. 204. Pursh 2. p. 640. Nutt. 2. p. 223.
P. Squarrosa? Walt. p. 237?
Icon. Mich. arb. for. 1. p. 58.

A small tree, rarely attaining the height of 30 or 40 feet, and 12—15 inches in diameter, with scattered, tough, flexible and smooth branches. *Leaves*, as in all of the genus linear, acute, 1—2 inches long, united in pairs in each seath. *Cone* ovate, about 2 inches long; spines near the summit of the scales subulate, straight, acute.

This is a scrubby species of pine, and its wood is said to be of little value. It is said by Pursh to grow in Carolina; and it is probably one of the 2-leaved species described by Walter. I have, however, never seen it in the low country of Carolina or Georgia.

Grows in dry gravelly soils.

Flowers—

2. VARIABILIS.

P. foliis elongatis binis ternatisque tenuibus, canaliculatis; strobilis ovato-conicis subsolitariis; squamarum aculeis incurvis.

Leaves by pairs and by threes, slender, channelled; cones generally solitary; spines of the scales incurved.

Sp. pl. 4. p. 498. Pursh, 2. p. 643. Nutt. 2. p. 223.
P. Mitis, Mich. 2. p. 204.
P. Glabra? Walt. p. 237.
Icon. P. Mitis, Mich. arb. for. p. 52.

A large tree, sometimes growing 70—80 feet in height, and 2—3 feet in diameter, more disposed to branch near the surface of the ground than is common in this genus, and it therefore is only in very thick woods that it is found with a straight naked stem. *Leaves* generally 2 in each sheath, (sometimes 3 on young branches, Mich.) 4—5 inches long, of a darker green than those of our other pines. *Cones* small, solitary, not exceeding 2—3 inches in length.

This species is, I believe, universally known along the sea-coast of Carolina and Georgia as the spruce or short-leaved pine. The name of yellow pine is, with us, exclusively applied to the Pinus Palustris. The timber of this tree is not valued. Indeed, I know not that I have ever seen it applied to any use whatever. This, however, may be caused by the abundance which we possess of the very superior Pinus Palustris.

Grows along the sea-coast of Carolina and Georgia only in the most fertile soils—becoming there a tree of great magnitude.

Flowers April.

3. Rigida.

P. foliis ternis, vaginis abbreviatis; amentis masculis erecto-incumbentibus; strobilis ovatis, sparsis vel aggregatis, squamarum aculeis reflexis.	Leaves by threes, the sheaths short; sterile aments incumbent nearly erect; cones ovate, scattered or clustered, spines of the scales reflexed.

Sp. pl. 4. p. 498. Pursh, 2 p. 643. Nutt. 2. p. 223.
Icon. Mich. arb. for. p. 89.

A large tree, growing sometimes from 70—100 feet in height, and 2—3 in diameter. *Leaves* 4—6 inches long. *Cones* generally clustered 2—4 inches long, the scales with acute rigid spines, and closing strongly on each other.

This tree is not very common in the low country of Carolina, where it generally grows intermingled with trees of other kinds not forming forests exclusively of pine. The variety with clustered cones is very conspicuous; and if it really belongs to this species, appears also to vary in having its scales more loosely imbricate.

Michaux remarks, that on the ridges of the Mountains this pine is sometimes exclusively found for many miles—that the cones in such situations are solitary and the tree small. The timber is inferior to that of several other species.

Flowers April.

4. Serotina. Mich.

P. foliis elongatis; amentis masculis erecto incumbentibus; strobilis sphæroideo - ovatis,	Leaves long, by threes; sterile aments incumbent nearly erect; cones spheroidal-ovate,

squamarum aculeis rectis, tenuissimis.	spines of the scales straight, slender.

Mich. 2. p. 205. Sp. pl. 4. p. 499. Pursh, 2. p. 643. Nutt. 2. p. 223.
Icon. Mich. arb. for. 1. p. 86.

A small tree, sparingly disseminated in close or damp poor soils, rarely exceeding 30—40 feet in height, or 12—15 inches in diameter. *Leaves* 3 in each sheath 6—8 inches long. *Cone* 3 to 4 inches long, globular, frequently opposite on the small branches, with the scales closely imbricate, not opening and discharging the seed before the second year; sometimes, according to Mich. not until the third or fourth year.

This species in habit, leaf, bark and colour, resembles the young or stinted loblolly pines (P. Tæda) so much, that the cone alone appears to distinguish them. The cone resembles that of G. Rigida in some respects, but it is larger and more globular, and I think the leaves are longer than those of that species.

Grows around ponds and in damp soils.

Flowers April.

5. Pungens. Lambert.

P. foliis geminis, brevibus, acutis; strobilis ovato-conicis, aculeis squamarum elongatis, subulatis, incurvis, inferioribus reflexis.	Leaves by pairs, short, acute; cones ovate-conical, spines of the scales long, subulate, incurved, the lower reflexed.

Pursh, 2. p. 643. Nutt. 2. p. 223.
Icon. Mich. arb. for. 1. p. 61.

A tree 40—50 feet high, 1—2 feet in diameter, with many irregular branches. *Leaves* 2—3 inches long, 2 in each sheath, somewhat rigid. *Cones* ovate, sessile, 3—4 in a cluster. *Scales* closely imbricate, armed with large, rigid, acute spines.

Of this tree I have no personal knowledge: I am even uncertain whether it grows within the limits assigned to this work. The knob of the Alleghany Mountains however, generally known as the Table Mountain, is in South-Carolina. Mr. Nuttall considers its habitat as confined to the high ridges around the sources of the Catawba, North-Carolina; and perhaps from some summit in that neighbourhood it may have taken its popular name of Table Mountain Pine.

I think it probable, however, that it may be found on some of the high ridges of the Cherokee Mountains.

Flowers—

6. TÆDA. Lin.

P. foliis elongatis, ternis, vaginis elongatis, strobilis oblongo-conicis, deflexis, folio brevioribus, spinis inflexis.	**Leaves long, by threes, the sheaths long; cones oblong-conical, deflexed, shorter than the leaves; spines inflexed.**

Sp. pl. 4. p. 498. Mich. 2. p. 205. Pursh, 2. p. 644. Nutt. 2. p. 223

This is probably the largest species of pine in the Southern States. Along the margins of swamps it grows sometimes upwards of an hundred feet in height, and 3 feet in diameter. I have measured the trunk of one, which was 72 or 3 feet long without a branch. Its bark is thicker and coarser and more deeply furrowed than that of any species. *Leaves* 6—10 inches, 3 in a sheath. *Cones* 2—5 inches long, conical. *Scales* loosely imbricate, armed with a rigid spine.

This species is very abundant in South-Carolina and Georgia, along the sea-coast perhaps even more common than the P. Palustris. Its wood is used for all of the purposes to which that species is applied; but the heart or real wood is much smaller in proportion to its diameter, and even in its best state it is very inferior. It is therefore only as a substitute that it is employed where the P. Palustris cannot be readily obtained. There is so little rosin in this pine, that when dead it decays entirely and forms no lightwood. Its seed is dispersed so easily and so universally over the country, that all lands which are thrown out of cultivation are immediately covered with this tree, intermingled however if the soil be sandy with the P. Palustris.

Var. HETEROPHYLLA.

Along the marshes near the mouths of the fresh-water rivers, (at least in Georgia) this pine is very common. It is frequently called the smooth-bark Loblolly Pine. It becomes occasionally a very large tree; its bark is as smooth as that of P. Palustris but in longer scales; it has more sap-wood than any of our pines, and its leaves I have found in some instances by twos and threes indiscriminately mingled even on the old branches. Not having had an opportunity of seeing Lambert's splendid monograph on the genus Pinus, I was, until lately, accustomed to consider this as his P. Variabilis.

This species, (as all I believe of the real pines) bears aments of sterile flowers in clusters at the summit of the branches, the calyx yellow, tinged more or less with violet, the flowers when mature discharge so much pollen, that surface of stagnant pools appears to be almost covered with this "yellow dust." Even in the streets of Charleston, after heavy storms, I have seen small pools margined with the pollen which had been born by the winds across the adjacent rivers.

Grows in damp soils and those that are partially mingled with other forest trees. Much of the land bearing this pine is fertile, and becomes productive when well drained and broken up.

Flowers early in April.

7. Palustris.

P. foliis ternis, longissimis, stipulis pinnatifidis, ramentaceis, persistentibus; strobilis subcylindraceis muricatis.

Leaves by threes, very long; stipules pinnatifid, ramentaceous, persistent; cones somewhat cylindrical, muricate;

Sp. pl. 4. p. 449. Walt. p. 237. Mich. 2. p. 204. Pursh, 2. p. 644 Nutt. 2. p. 223.

Icon. P. Australis, Mich. arb. for. 1. p. 64.'

This fine tree generally grows from 80—100 feet in height, and from 24—30 inches in diameter. Its trunk is usually from 40—50 feet without branches. Its bark is smoother than common in this genus, and divided into an innumerable quantity of thin scales, which appear to be constantly exfoliating. *Leaves* 3 in each sheath, those of the old trees about 12 inches long, those of the young tree frequently 18. *Cone* 6—10 inches long, cylindrical or conical, the scales separating and discharging their seed early in the fall. This tree is almost universally distinguished in the two Southern States as the Yellow Pine; it is sometimes called the Long-leaved Pine, and sometimes Pitch Pine. It is more extensively used than any other species of timber we possess. For the frames, the covering, and even the roofing of houses, it is used wherever cypress cannot be obtained; for the flooring of houses, it is preferred to any wood that is known. It is extensively used in ship-building, for the beams, plank, and running timber of vessels. It is used to make the casks in which we ship our rice, and the fencing of our plantations.

This tree contains more rosin than any other species of pine; the fibre is sometimes protected from the operations of the atmosphere by the abundant formation of this substance; and when the tree begins to decay, portions of the trunk in which this rosin has accumulated; knots at the junction of the branches or callosities where injuries have been sustained, are converted into *lightwood*; this, when charred afterwards by the annual fires which run through our forests, become almost imperishable. The large pieces are used for the sills of houses, the smaller for posts, and the irregular fragments are used for fuel or as torches, or are employed in the manufacture of Tar. From the sap of the living tree most of the turpentine of commerce is obtained.

The name originally imposed on this species is unfortunate, as it produces a false impression, and has been the source of error to foreigners, if not to our own countrymen. If an inhabitant of the Southern States, ignorant o

Botany, should be interrogated respecting the P. Palustris or Swamp Pine, he would instantly revert to the P. Tæda, and his answers would be drawn from that species.

Grows in dry sandy soils, where the sub-soil however, though 2 or 3 feet below the surface is usually of clay, covering nearly all of the ridges along the coast of Carolina and Georgia within 120 miles of the ocean. Whereever the land becomes moist or fertile, the P. Tæda, and sometimes the P. Rigida encroach upon it.

Flowers April.

8. STROBUS. Lin.

P. foliis quinis gracilibus, vaginis brevissimis; strobilis pendulis, cylindraceis, folio longioribus, squamis laxis.	**Leaves by fives, slender, sheaths very short; cones pendulous, cylindrical, longer than the leaf, scales loose.**

Sp. pl. 4. p. 501. Mich. 2. p. 205. Pursh, 2. p. 644. Nutt. 2. p. 223. Icon. Mich. arb. for. 1. p.

This tree attains a greater size than any other species of North-American Pine. It has been known to grow upwards of 140 feet in height, and from 6—7 in diameter. The bark is smoother than that of the 3-leafed pines, and the aspect of the tree somewhat different. *Leaves* about 4 inches long, pale, almost glaucous green, 5 in a cluster, confined by a sheath scarcely a line long. *Cones* solitary, much longer than the leaves, the scales very loosely imbricate, and unarmed at the summit.

The wood of this tree is very extensively used; it is soft, fine grained and light, and free from turpentine; it is therefore used for all the interior work of houses except the floors, and in the Northern States for the covering, and even for the frames. From its size and lightness it is preferred for the masts of vessels to all other wood. To the yellow pine (P. Palustris) it is inferior in strength, in hardness, and in durability.

This tree perhaps attains its greatest size in the States of Maine, New-Hampshire and Vermont. In the Southern States it is confined to the ridges of the Alleghany Mountains, and I believe there does not attain to any great size.

Grows (on the declivities of Mountains) in damp sphagnous soils along the margins of streams.

Flowers April—May.

*** Abies. Foliis solitariis, basi distinctis; coni squamis lævibus, attenuatis.*	*** Fir. Leaves solitary, distinct at base, scales of the cone smooth, tapering.*

9. Balsamea.

P. foliis solitariis, planis, emarginatis integrisve, subtus glaucis, subpectinatis, supra suberectis, recurvato-patentibus; conis cylindraceis erectis, bracteolis abbreviatis obovatis, longe mucronatis, subserrulatis.

Leaves solitary, flat, emarginate or entire, glaucous underneath, somewhat pectinate, at the summit nearly erect, below recurved, expanding; cones cylindrical, erect; bracteas short, obovate, mucronate, slightly serrulate.

Sp. pl. 4. p. 504. Pursh, 2. p. 639. Nutt. 2. p. 223.
Abies Balsamifera, Mich. 2. p. 207.

A small tree, rarely exceeding 30 to 40 feet in height, from 12 to 15 inches in diameter; the leaves 6 to 10 lines long, solitary, bright green on the upper surface, glaucous underneath. *Cone* solitary, erect, somewhat cylindrical. The scales closely and handsomely imbricate, with the margins thin and smooth.

This species, like all the rest of the firs, is only to be found in the Southern States on the highest summits of the Alleghany Mountains. The P. Fraseri of Pursh seems only to be a variety of this species. It is commonly called the Silver Fir, Balm of Gilead, or Balsam Fir.

Flowers April—May.

10. Canadensis. Lin.

P. foliis solitariis, planis, denticulatis, sub distichis; strobilis ovatis, terminalibus, vix folio longioribus.

Leaves solitary, flat, denticulate, somewhat distichous; cones ovate terminal, scarcely longer than the leaf.

Sp. pl. 4. p. 505. Pursh, 2. p. 640. Nutt. p. 223.
Abies Canadensis, Mich. 2. p. 206.
Icon Abies Canadensis, Mich. arb. for. 1. p. 137.

This tree, in favourable situations, attains a large size, and is found 70—80 feet high and 2—3 in diameter; its branches are generally horizontal, and the leaves irregularly distichous, and somewhat crowded near the extremities of the branches which are also distichous. *Leaves* 6—8 lines long, flat, glabrous, though pubescent when young. *Cones* very small, terminal, with smooth imbricate scales.

Even when this tree is abundant its wood is little valued. Its grain is said by Michaux to be irregular and almost spirally contorted, and it decays soon when exposed to the weather. It is therefore only used where better timber cannot be procured. Its bark is extensively used for tanning, and is valuable though inferior to the oak. It is generally known as the Hemlock Spruce, or Pine.

In the Southern States this tree is confined to the highest ridges and vallies of the Alleghany Mountains.

Flowers April—May.

11. Nigra. Aiton.

P. foliis solitariis, tetragonis, undique sparsis, erectis, strictis; strobilis ovatis, squamis ellipticis, margine undulatis, apice eroso-denticulatis.	Leaves solitary, 4-angled, scattered on all sides, erect, straight; cones ovate, scales elliptic, undulate along the margin, the summit denticulate.

Sp. pl. 4. p. 506. Pursh, 2. p. 640. Nutt. 2. p. 223.
Abies Denticulata, Mich. 2. p. 206.
Icon. Abies Nigra. Mich. arb. for. 1. p. 123.

This fir, in favourable situations, also becomes a fine tree, attaining sometimes 60—80 feet in height, and 12—18 inches in diameter, generally forming a handsome pyramid at summit. *Leaves* very numerous, scarcely exceeding half an inch in length, of a very dark green. *Cones* oval, 1—2 inches long, growing near the extremities of the small branches, generally turned towards the earth. *Scales* imbricate, broad, the margins crenulate or divided.

The tall slender bodies of this tree are extensively used for the spars of vessels. and from its young branches principally the spruce of commerce is prepared. In the sphagnous swamps among the Mountains in the north-eastern districts of the United States, the fir is very abundant. In the Southern States it is rare, and confined to the high ridges of the Alleghany Mountains.

Flowers April—May.

12. Alba. Aiton.

P. foliis solitariis tetragonis, incurvis; stro-	Leaves solitary, 4-angled, incurved; cones

bilis subcylindricis, laxis, squamis obovatis, integerrimis.	nearly cylindrical, loose, the scales obovate, entire.

Sp. pl. 4. p. 507. Pursh, 2. p. 641. Nutt. 2. p. 223.
Abies Alba. Mich. 2. 207.
Icon. Abies Alba. Mich. arb. for. 1. p. 133.

A small tree 40 to 50 feet high, from 12 to 15 inches in diameter. *Leaves* 5 to 8 lines long, less crowded than those of the preceding species, pale or slightly glaucous. *Cones* slender, oblong, about 2 inches long, turned towards the earth. *Scales* broad, imbricate, the margin very entire.

Grows with the preceding species.

Flowers April—May.

THUJA. GEN. PL. 1457.

Masculi. *Amentum* imbricatum. *Calyx* squama. *Corolla* 0. *Antheræ* 4.	*Sterile florets.* *Ament* imbricate. *Calyx* a scale. *Corolla* 0. *Anthers* 4.
Foeminei. *Amentum* strobilaceum. *Calyx* squama, 2-flora. *Corolla* 0. *Nux* 1, cincta ala marginata.	*Fertile florets.* *Ament* a cone. *Calyx* a scale, 2-flowered. *Corolla* 0. *Nut* 1, surrounded with a wing.

1. OCCIDENTALIS. Lin.

T. ramulis ancipitibus; foliis quadrifariam imbricatis, ovato-rhombeis, adpressis, nudis, tuberculatis; strobilis obovatis, squamis interioribus truncatis, infra apicem gibbosis.	Branches ancipitous; leaves imbricate in 4 rows, ovate-rhomboidal, appressed, naked, tuberculate; cones obovate, interior scales truncate, gibbous below the summit.

Sp. pl. 4. p. 508. Walt. p. 238. Mich. 2. p. 209. Pursh, 2. p. 646. Nutt. 2. p. 224.
Icon. Mich. aib. for. 3. p. 29.

A small tree, sometimes however reaching the height of 40—50 feet, and about 2 feet in diameter, with spreading irregular branches, the small branches generally somewhat distichous. *Leaves* perennial, resembling small ovate scales, imbricate, in four rows, and closely appressed. *Aments* of sterile flowers oblong, somewhat conical. *Cone* oblong, terminating the small branches, composed of scales loosely imbricate, and opening down to the base. *Seeds* small, winged, and emarginate.

The wood of this tree is said by Michaux to be one of the most durable which our forests produce; it is therefore eagerly sought after, and employed for the posts and rails of enclosures, and for every purpose to which its small and generally irregular trunk can be applied.

In the Southern States it is confined like the firs to the high Mountains, and to the margin of the mountain streams, and, I believe, enters very little into the domestic economy of our farmers.

Flowers in May.

CUPRESSUS. Gen. Pl. 1458.

Masculi. *Amentum* imbricatum. *Calyx* squama. *Corolla* 0. *Antheræ* 4, sessiles absque filamentis.	*Sterile florets*. *Ament* imbricate. *Calyx* a scale. *Corolla* 0. *Anthers* 4, sessile, without filaments.
Foeminei. *Amentum* strobilaceum. *Calyx* squama 1-flora. *Corolla* 0. *Stigmata* 2, puncta, concava. *Nux* angulata.	*Fertile florets*. *Ament* a cone. *Calyx* a scale 1-flowered. *Corolla* 0. *Stigmas* 2, dotted, concave. *Nut* angled.

1. DISTICHA.

C. foliis distichis, planis, deciduis; floribus masculis aphyllo-paniculatis; strobilis sub-globosis.	Leaves two-rowed, flat, deciduous; sterile florets paniculate, leafless; cones spherical.

Sp. pl. 4. p. 512. Walt. p. 238. Mich. 2. p. 208. Pursh, 2. p. 645. Nutt. 2. p. 231.

Icon. Mich. arb. for. 3. p. 4.

This is the largest, and in some respects, the most remarkable tree in the low country of the Southern States. Its usual height is from 90—100 feet, and though commonly only from 2—4 feet in diameter, it is frequently found nearly twice that size, and if measured within 3 feet of the surface of the ground, its dimensions would be still greater. Its roots for 6 or 7 feet beneath the surface of the ground, appear to be but a continuation of the stem, while its small ramifications rise to the surface of the earth, and produce at 15, 20 or 30 feet from its base, small conical knobs from 1—2 feet high, which are always hollow, and never discover any signs of vegetation. The trunk of this tree for 50 or 60 feet is naked and almost undiminised in size; its branches then rise obliquely, and terminate in a flat or fastigate summit. From this peculiar conformation of the branches, a cypress tree can be distinguished as far as the eye can reach; while from the fineness of its leaves, the comparatively small size of its head, and its massive and extended roots, it resists the violence of our autumnal gales more obstinately than any other of our forest trees.

The leaves of the Cypress are small, linear, acute, glabrous, arrayed distichally along small deciduous branches, which serve as a common petiole; a few are sometimes scattered along the small woody branchlets. The sterile flowers in terminal aments. *Calyx* a scale, ovate-lanceolate, imbricate. *Corolla* 0. *Filaments* 0. *Anthers* 4, nearly round, sessile. The fertile florets in obovate sessile cones, clustered near the summit of the branches. *Calyx* a scale, ovate-lanceolate, 1-flowered? *Styles* 2, thick. *Cone* globular, with an irregular surface, exuding an aromatic gum. *Seeds* or *Nut* angular, enclosing a cylindrical kernel which contains the embryo.

The Cypress grows only in wet miry soils, and it is in situations where a wet alluvial soil of 5 or 6 feet deep overlays a bed of sand, that it attains its greatest dimensions. It begins to decay at the centre in small vesicular cells, from whence, in this state, it is commonly said to be honey-combed at heart. From the straightness of its fibre, it is very liable to be "heart-shaken."

The wood of this tree is soft, rather fine-grained, and when exposed to the weather is the most durable of our timber. Where it can be procured easily it is preferred to the yellow pine for the frames and coverings of houses; and if it were not for its price, would be preferred to the white pine for the interior work. It is universally employed for shingles. Nearly all the canoes or small boats of the country are fabricated out of it. It could be employed advantageously in the construction of vessels, and is particularly sought after for all of those works which, from the rise and fall of the tide, or from other circumstances are perpetually exposed to the action of heat and moisture.

Our inhabitants distinguish two varieties of this tree, called from slight shades of difference in the colour of the bark and wood, White and Black Cypress; the wood of the latter is preferred, and the tree is supposed by some to grow in a richer soil. This, however, is but prejudice; the two varieties are found mingled indiscriminately in the same swamps, and the causes of their difference is not understood.

Var. Imbricaria, Nutt. This is a small tree growing in pine-barren ponds. It produces its knobs (Exostoses) more abundantly than the large variety; and on its lower branches the leaves are frequently imbricate after the manner of the Junipers. But on the upper branches the leaves are often expanded and distichous. It is perhaps only a stunted variety, growing in an unfavourable soil.

Flowers in February.

2. THYOIDES. Lin.

C. ramulis compressis; foliis quadrifariam imbricatis, ovatis, basi tuberculatis; strobilis globosis, parvis.	Branches compressed; leaves in 4 rows imbricate, ovate, tuberculate at base; cones spherical, small.

Sp. pl. 4. p. 512. Mich. 2. p. 208. Pursh, 2. p. 646. Nutt. 2. p. 224. Icon. Mich. arb. for. 3. p. 20.

A tree of moderate dimensions, sometimes however attaining the height of 70 or 80 feet in height, and from 2 to 3 in diameter. The leaves are perennial, nearly resembling scales, imbricate on the compressed branches. *Flowers* axillary among the small branches. *Cone* globular, on a short pedicel 3 to 4 lines in diameter. The scales somewhat rhomboidal.

The wood of this tree is soft, fine-grained, light and durable. It has nearly all the good qualities of the Cupressus Disticha; and, therefore, where it is abundant, it is applied as far as its size will admit, to all of the uses for which that species is employed.

Grows in the great morasses which are found near the sea-coast in the Middle States. In the Southern States it becomes rare. I have been informed that it grows in and around the savannas in Horry and Williamsburg Districts. Michaux mentions that he heard of it as far south as the borders of the Savannah River.

Flowers—

ACALYPHA. GEN. PL. 1461.

Masculi. *Calyx* 3 s. 4-phyllus. *Corolla* 0. *Stamina* 8—16.	*Sterile florets.* *Calyx* 3—4 leaved. *Corolla* 0. *Stamens* 8—16.
Foeminei. *Calyx* 3-phyllus. *Corolla* 0. *Styli* 3. *Capsula* 3-locularis. *Semen* 1.	*Fertile Florets.* *Calyx* 3-leaved. *Corolla* 0. *Styles* 3. *Capsule* 3-celled. *Seed* one in each cell.

1. Virginica. Lin.

A. floribus foemineis ad basin spicæ masculæ; involucris cordato-ovatis, acuminatis, dentatis; foliis oblongo-lanceolatis, remote, obtuse serratis.

Fertile florets at the base of the sterile spike; involucrum cordate ovate, acuminate, toothed; leaves oblong-lanceolate, remotely and obtusely serrate.

Sp. pl. 4. p. 521. Walt. p. 238. Mich. 2. p. 215. Pursh, 2. p. 604. Nutt. 2. p. 225.

Plant annual. *Stem* 12—18 inches high, striate, pubescent, branching. *Leaves* alternate, lanceolate, pubescent, dotted, crenulate. *Involucrum* axillary on a short peduncle, cordate, nerved, notched, pubescent, much shorter than the leaves. Sterile florets very small, in a spike longer than the involucrum. *Calyx* 4-leaved. *Leaves* lanceolate, hairy. *Stamens* 8—16. *Filaments* short, cohering at base. Fertile florets at the base of the sterile, included in the involucrum. *Calyx* 3-leaved. *Styles* 3, 3 to 8-parted. *Capsule* composed of 3 united cells, hispid. *Seed* globular, 1 in each cell.

This plant is said by Dr. Atkins of Coosawhatchie, to be expectorant and diuretic. He has used it successfully in cases of humid Asthma, Ascites and Anasarca.

Grows in cultivated lands and in woods where the soil is dry and fertile, very common.

Flowers June—September.

2. Caroliniana. Walter.

A. foliis longe petiolatis, ovali-lanceolatis, acuminatis, acute serratis, nervosis, basi sub cordatis; ramulis fructiferis plerumque nudis; involucris sessilibus, incisis; capsulis echinatis. E.

Leaves on long petioles, oval lanceolate, acuminate, acutely serrate, nerved, slightly cordate at base; fruit bearing branches generally naked; involucrum sessile, notched; capsules echinate.

Walt. p. 238. Sp. pl. 4. p. 521. Mich. 2. p. 215. Pursh, 2. p. 604. Nutt. 2. p. 225.

Plant annual. *Stem* 1—2 feet high, striate and very pubescent. *Leaves* sprinkled with hairs on both surfaces, 3—5-nerved, 2—3 inches long, on petioles about as long as the leaves. *Involucrum* small, sessile, deeply notched. *Spike* of sterile florets axillary, small, scarcely exceeding an inch in length. *Stamens* numerous. *Spike* of fertile florets 2—4 inches long, leafless except at base, perhaps only the lower flowers really maturing their seed. *Capsule* small, echinate.

This species differs so much in appearance and habit from the preceding, as to excite at least a doubt whether it belongs to the same genus. It is to me, however, very rare, and for many years I have had no opportunity of examining it in a living state.

Found on Paris Island in cultivated land.

Flowers August—October.

CROTON. Gen. Pl. 1462.

Masculi. *Calyx* cylindricus, 5-dentatus. *Corolla* 5-petala. *Stamina* 10—15.	*Sterile florets.* *Calyx* cylindrical, five-toothed. *Corolla* 5-petalled. *Stamens* 10—15.
Foeminei. *Calyx* polyphyllus. *Corolla* 0. *Styli* 3, bifidi. *Capsula* 3-locularis. *Semen* 1.	*Fertile florets.* *Calyx* many leaved. *Corolla* 0. *Styles* 3, 2-cleft. *Capsule* 3-celled. *Seed* 1 in each cell.

1. Maritimum. Walt.

C. foliis petiolatis, subcordato-ovalibus ovatisve, obtusis, ramulisque tomentosis, supra pallidis subtus incanis; spicis foemineis paucifloris, plerumque binis; caule suffruticoso. E.	Leaves on petioles, slightly cordate, oval or ovate, obtuse, with the branches tomentose, pale on the upper surface, hoary underneath; fertile spikes few flowered, frequently but 2; stem somewhat shrubby.

Walt. p. 239. Sp. pl. 4. p. 532. Pursh, 2, p. 603. Nutt. 2. p. 225
C. Disjunctiflorum, Mich. 2. 214.

Stem 2—3 feet high, trichotomously divided, the branches cinereous, when young brownish, rather rough, dotted and covered, together with the leaves and calyx, with a stellular tomentum. *Leaves* about 2 inches long, very obtuse or cordate at base, entire, slightly undulate, light grey or hoary underneath. *Flowers* at first terminal; by the growth of the plant the seed, before it ripens, is found in the divisions of the stem. *Spike* of sterile florets many flowered (12—20) sometimes 2 or 3 together. *Calyx* 1-leaved, the border 6-cleft. *Corolla* 0. *Filaments* about 12, as long as the calyx; 5 yellow curved glands in the bottom of the calyx surround the base of the filaments. Female florets generally in pairs, separate from the sterile spikes. *Calyx* inferior, persistent. *Corolla* 0. *Styles* 3, very short, 3 or 4-cleft. *Capsule* 3-celled, tomentose. *Seed,* 1 in each cell.

Grows in the drifting sands along the margin of the Ocean.

Flowers June—October.

2. ARGYRANTHEMUM. Michaux.

C. caule fruticoloso; foliis integerrimis, obtusis, obovatis; racemis terminalibus, brevibus, congestim multifloris, calycibus pedicellatis, argenteis. Mich.	Stem somewhat shrubby; leaves entire, obtuse, obovate; racemes terminal, short, many flowered; calyx on pedicels, silvery.

Mich. 2. p. 215. Sp. pl. 4. p. 535. Pursh, 2. p. 603. Nutt. 2. p. 225.

With regard to this species I can add nothing to the description of Michaux. I once saw specimens of it collected by Mr. Lyon on the sand-hills around Fort Barrington on the Altamaha, but I had no opportunity of examing them.

Grows in very dry soils in Carolina and Georgia, Mich.

Flowers June—September.

3. GLANDULOSUM. Lin.

C. foliis oblongis, serratis, subtus hirtis, basi subintegerrimis, biglandulosis; caule trichotomo, herbaceo; spicis in dichotomia caulis.	Leaves oblong, serrate, hairy underneath, nearly entire at base, bearing 2 glands; stem herbaceous trichotomous; spikes in the division of the stem.

Sp. pl. 4. p. 26. Walt. p. 239. Mich. 2. p. 214. Pursh, 2. p. 603. Nutt. 2. p. 225.

Plant annual. *Stem* about 2 feet high, hispid, often coloured, trichotomously divided towards the summit. *Leaves* alternate, on very short petioles, crowded near each division of the stem, elliptic, coarsely and obtusely serrate, pubescent on the upper surface, hairy underneath. *Flowers* in the divisions of the stem, the fertile sessile, the sterile in small spikes intermingled with them. Sterile florets. *Calyx* 1-leaved, tubular. *Corolla* 5-petalled, petals lanceolate, white, longer than the calyx inserted into its base. *Stamens* 10. as long as the corolla. Fertile florets. *Calyx* 5-leaved, persistent, hisped, 2 large, 3 smaller. *Corolla* 0. *Styles* 3, 2-cleft. *Stigmas* simple. *Capsules* hispid, the cells separating when mature, each 2-valved, 1-seeded.

Grows in all cultivated land, very common.

Flowers June—October.

ELLIPTICUM? Nutt.

C. foliis ovali-lanceolatis, integerrimis, senioribus obtusis, stellato-tomentosis, subtus pallidioribus; floribus terminalibus, congestis, foemineis masculisque immixtis.

Leaves oval-lanceolate, entire, when old obtuse, stellularly tomentose, pale underneath; flowers terminal, clustered, sterile and fertile intermingled.

Nutt. 2. p. 225.

Plant annual, when bruised aromatic. *Stem* 1—2 feet high, pubescent, tomentose when young, branching irregularly. *Leaves* on short petioles, oblong-lanceolate, sometimes obtuse, light green and somewhat smoother in the upper surface, hoary underneath. *Flowers* in terminal clusters, the sterile spike growing from the midst of the sessile fertile flowers. *Calyx* of both tomentose. *Styles* 3, each compoundly dichotomous. *Capsules* very tomentose. *Cells* 1-seeded.

This species agrees in many respects with the C. Capitatum of Mich. and the C. Ellipticum of Nutt. and differs slightly from both. Not having specimens of each, I have hesitated where to place it.

Grows in the pine-barrens near Columbia, Mr. Herbemont.

Flowers in the summer.

JATROPHA. Gen. Pl. 1463.

Masculi. *Calyx* 0, sive 5-phyllus. *Corolla* 1-petala, infundibuliformis. *Stamina* 10, alterna breviora.

Foeminei. *Calyx* 0. *Corolla* 5-petala, patens. *Styli* 3, bifidi. *Capsula* trilocularis. *Semen* 1.

Sterile florets. *Calyx* 0, or 5-leaved. *Corolla* 1-petalled, funnel-shaped. *Stamens* 10, alternately short.

Fertile florets. *Calyx* 0. *Corolla* 5-petalled, expanding. *Styles* 3, 2-cleft. *Capsule* 3-celled. *Seed*, 1 in each cell.

1. Stimulosa. Michaux.

J. herbacea, pilis stimulosis hispida; foliis palmato-lobatis, lobis obtusiusculis, subsinuatis dentatisque; cymis brevi pedunculatis; corollis albis.

Herbaceous, hispid with stimulating prickles; leaves palmate-lobed; lobes rather obtuse, slightly sinuate and toothed; cymes on short peduncles; corolla white.

Mich. 2. p. 216. Pursh, 2. p. 603. Nutt. 2. p. 225.
J. Urens, Walt. p. 239.

Root perennial, the fibres very long. *Stem* 6—18 inches high, branching, terete, covered as well as the leaves and fruit, with stimulating prickles. *Leaves* 3 or 5-lobed, cordate at base, the lobes toothed or sinuate, ciliate, strongly veined. *Flowers* in a terminal cyme, di or trichotomously divided, the fertile florets generally sitting in the divisions of the peduncle. Sterile flowers. *Calyx* 0. *Corolla* hypocrateriform, pubescent, the tube as long as the 5-cleft border. *Stamens* 10, united at base, those in the centre the longest. Fertile florets. *Calyx* 0. *Corolla* 5-petalled. *Style* appearing short, thick, many (12) cleft, (composed really of 3 styles, soldered together, each compoundly dichotomous;) an orange-coloured gland surrounds the base of both stamens and germ. *Capsule* rough, very hispid, 3-celled. *Seed*, 1 in each cell.

For so small a plant the root is very remarkable, the principal fibres or branches are rather larger than a quill. They penetrate the loose soil in which this plant delights to grow, to a great distance. I have followed them by digging 3, 4 or 5 feet, but never to their termination.

The prickles of this plant, like those of the Nettle, produce on delicate skins great irritation for a few minutes. Children are very much accustomed to annoy each other with them. But of the serious injury which, according to Pursh, the feet of our Negroes sustain from them, I can only say I have never heard.

Grows in light sandy soils.

Flowers through the whole summer.

STILLINGIA. GEN. PL. 1470.

Masculi. *Calyx* hemisphæricus, multiflorus. *Corolla* tubulosa, erosa.	*Sterile florets.* *Calyx* hemispherical, many flowered. *Corolla* tubular, erose.
Foeminei. *Calyx* 1 florus, inferus. *Corolla* supera. *Stylus* 3-fidus. *Capsula* 3-locularis. *Semen* 1.	*Fertile florets.* *Calyx* 1-flowered, inferior. *Corolla* superior. *Style* 3-cleft. *Capsule* 3-celled. *Seed,* 1 in each cell.

1. SYLVATICA. Lin.

S. herbacea; foliis sessilibus, oblongo-lanceolatis, basi attenuatis, serrulatis; flosculis masculis squamam floralem vix superantibus.	Herbaceous; leaves sessile; oblong-lanceolate, tapering at base, serrulate; sterile florets scarcely longer than the bracteal scale.

Sp. pl. 4. p. 588. Walt. p. 239. Mich. 2. p. 213. Pursh, 2. p. 608. Nutt. 2. p. 226.

Root large, woody, perennial. *Stem* herbaceous, 2—3 feet high, somewhat angled by the base of the leaves, with the whole plant glabrous and lactescent. *Leaves* alternate, irregularly serrulate, somewhat coriaceous, shining on the upper surface, paler underneath. *Stipules?* several small subulate glands in the axils of the leaves and flowers. *Flowers* in a terminal spike, the upper crowded as in an ament, sterile, with interposing cupulate glands. Fertile florets few at the base. Sterile florets. *Calyx* a scale, ovate, obtuse, mucronate, many flowered (7.) *Corolla* 1-petalled, funnel-shaped, rugose, yellowish, the border somewhat bilabiate, undulate, filaments 2, thick, longer than the corolla. Fertile florets. *Calyx* obtuse. *Corolla* superior, 1-petalled, with the margin fimbriate. *Style* erect, 3-cleft, (perhaps 3 united.) *Capsules* rather rough, 3-celled, one seed in each cell.

Grows in dry sandy soils.

Flowers May—June.

2. SEBIFERA.

S. arborea; foliis petiolatis, rhombeis, acuminatis, integerrimis, infra basin glandula petiolari; floribus masculis pedicellatis.

A tree; leaves on petioles, rhomboidal, acuminate, entire, with a petiolar gland below the base; sterile florets on pedicels.

Sp. pl. 4. p. 588. Mich. 2. p. 213. Pursh, 2. p. 608. Nutt. 2. p. 226. Croton Sebiferum, Lin.

A tree 20—40 feet high, the young branches and leaves glabrous and somewhat lactescent. *Leaves* alternate, broad and rhomboidal, conspicuously acuminate, on petioles 1—2 inches long. *Flowers* interminal spikes, the sterile very much crowded towards the summit, the fertile few at base. Sterile floret. *Calyx* ovate, obtuse, 10—12-flowered, having 2 greenish glands at base, each floret on a pedicel 2—3 lines long. *Corolla* 1-petalled, 4-toothed. *Filaments* 2, longer than the corolla. Fertile floret. *Calyx* a scale, 3-parted, persistent. *Corolla* . *Styles* 3, subulate, reflexed. *Stigma* simple. *Capsule* a little rough, black, 3-celled. *Seed* one in each cell, very white.

This tree, originally from China, is now completely naturalized along the sea-coast of our country. It bears its fruit in great abundance, but though they contain much oil no use is yet made of them.

Grows in rich close soils.

Flowers June—July.

3. LIGUSTRINA. Mich.

S. fruticosa, foliis lanceolatis, utrinque attenuatis, integerrimis, petiolatis; flosculis masculis brevissime pedicellatis.

A shrub; leaves lanceolate, tapering at each end, entire, on petioles; sterile florets on short pedicels.

Mich. 2. p. 213. Sp. pl. 4. p. 588. Pursh, 2. p. 608. Nutt. 2. p. 226.

A shrub 6—12 feet high, diffusely branching, the branches and leaves glabrous. *Leaves* scarcely an inch in length, lanceolate and oval-lanceolate, very acute; on petioles 2—3 lines long. *Flowers* in terminal spikes. Sterile florets towards the summit numerous. Fertile florets few at base. Sterile florets, Scale or Bractea, short, ovate, 1—2-flowered. *Corolla* 3-cleft. *Stamens* generally three. *Filaments* very short. Fertile florets. *Scale* small. *Corolla* 3-cleft, persistent. *Styles* 3, united at base, reflexed. *Stigmas* simple. *Capsule* 3-celled, 1 seed in each cell.

In all of the specimens I have seen of this species, there are as usual in this genus 2 or 3 fertile florets at the base of each spike.

In this genus I think the scale that surrounds each group of sterile florets can only be considered as a bracteal leaf, and the corolla a real calyx.

Grows along the margin of creeks and swamps in the middle districts of Carolina and Georgia.

Flowers May—July.

EUPHORBIA. GEN. PL. 823.

Involucrum calyciforme, ventricosum, 8—10 dentatum, dentibus alternis plerumque petaloideis.	*Involucrum* resembling a calyx, ventricose, 8—10 toothed, the alternate teeth generally petaloidal.
Masculi pauci, lateri interiori involucri adnati. *Calyx* polyphyllus? foliolis laceris. *Stamina* 4—5? (*Calyx* monophyllus vel 0. *Stamen* 1.)	*Sterile florets* few, attached to the interior side of the involucrum. *Calyx* many leaved? the leaflets lacerate. *Stamens* 4—5. (*Calyx* 1-leafed or 0. *Stamen* 1.)
Foeminei. Flos solitarius, pedicellatus, centralis. *Calyx* 0. *Corolla* 0. *Styli* 3, bifidi. *Capsula* 3-locularis. *Semen* 1.	*Fertile florets. Flower* solitary, central on a pedicel. *Calyx* 0. *Corolla* 0. *Styles* 3, 2-cleft. *Capsule* 3-celled. *Seed* 1.

1. Cyathophora. Murr.

E. fruticescens; foliis petiolatis, ovatis, subdentatis, panduriformibus, summitate involucellisque coloratis; floribus subumbellatis.	Somewhat shrubby; leaves on petioles, ovate, slightly toothed, panduriform, the upper ones and the involucrums coloured; flowers somewhat umbellate.

Sp. pl. 2. p. 891. Pursh, 2. p. 605. Nutt. 2. p. 227.

Plant annual. *Stem* about 2 feet high, glabrous. *Leaves* alternate on petioles nearly an inch long, oblong, panduriform, the segments toothed, the summit slightly acuminate, the upper and those that surround the flowers, coloured near the base deep red. *Flowers* in a terminal cluster. Sterile florets numerous. *Pedicel* of the fertile floret longer than the involucrum. *Capsule* smooth, 3-celled, the cells 2-valved, 1-seeded.

This plant is seen occasionally in our gardens, but is not naturalized as far north as Savannah.

Flowers through a great part of the summer.

2. Graminifolia. Mich.

E. pusilla, erecta, ab imo ramosa, minutissime puberula; foliis sparsis, linearibus, integerrimis, supremis basi discoloribus; floribus fasciculato-terminalibus.	Small, erect, branching from the base, finely pubescent; leaves scattered, linear, entire, the upper ones discoloured at base; flowers fasciculate, terminal.

Mich. 2. p. 210. Pursh, 2. p. 605. Nutt. 2, p. 227.

This species is said by Michaux to grow along the sea-coast of Georgia and Florida. I have never met with it.

Flowers—

3. Hypericifolia. Lin.

E. glabra; ramosissima, patulo-erecta; ra-	Glabrous, branching, erect, expanding;

mis divaricatis; foliis oppositis; serratis, ovali-oblongis, subfalcatis; corymbis terminalibus.	branches divaricate; leaves opposite, serrate; oval-oblong, slightly falcate, corymbs terminal.

Sp. pl. 2. p. 895. Mich. 2. p. 211. Pursh, 2. p. 605. Nutt. 2. p. 227.

Stem annual, erect, 2—3 feet high, branches opposite, divaricate. *Leaves* opposite, sessile, oval, acutely serrate, unequal at base, glabrous, 3-nerved, nearly an inch long. *Flowers* small, solitary I suspect at each joint, but from the shortness of the upper joints they are crowded and appear fasciculate.

Grows in the upper districts of Carolina and Georgia. Milledgeville, Dr. Boykin.

Flowers June—September, Pursh.

4. MACULATA. Lin.

E. erecto-patula; foliis oppositis, serratis, oblongis, pilosis; floribus axillaribus solitariis; involucri laciniis interioribus coloratis.	Erect, expanding; leaves opposite, serrate, oblong, hairy; flowers axillary, solitary, interior segments of the involucrum coloured.

Sp. pl. 2. p. 896. Walt. p. 144. Mich. 2. p. 211. Pursh, 2. p. 605. Nutt. 2. p. 227.

Plant annual. *Stem* erect or procumbent, dichotomously branching, slightly pubescent, generally coloured, (purple) 2—3 feet high. *Leaves* opposite, on short petioles, oblong, hairy, unequal at base, 3-nerved, serrate, excepting on one side near the base, paler underneath, when young conspicuously spotted near the base. *Flowers* crowded near the summit, but really solitary at each axil. *Involucrum* glabrous, the petaloid segments (4—5) white. *Capsule* glabrous.

Grows in dry cultivated soils.

Flowers June—October.

5. THYMIFOLIA? Lin.

E. humifusa, gracilis, pubescens; foliis oppo-	Procnmbent, slender, pubescent; leaves

sitis, ovali-oblongis, obtusis, superne sub-serratis; capitulis axillaribus, glomeratis, sub-sessilibus.

opposite, oval-oblong, obtuse, slightly serrate near the summit; heads axillary, clustered, nearly sessile.

Sp. pl. 2. p. 898. Walt. p. 144. Mich. 2. p. 212. Pursh, 2. p. 606. Nutt. 2. p. 227.

This species is described by Michaux as inhabiting the borders of the Ohio and Mississippi. Walter mentions it among the plants of this country. It is probable that the following species is the one intended by Walter. At least, I have seen no one agreeing with the character of E. Thymifolia, or with the figure of Plukenet, t. 113. p. 2. It may be remarked also, that the original E. Thymifolia is a native of the East-Indies.

6. DEPRESSA. Torrey.

E. caule humifuso, gracili, pubescente; foliis oppositis, ovalibus, sub-serratis, basi inæqualibus, supra glabris; subtus pilosis pallidis; floribus solitariis, axillaribus, folio multo brevioribus. E.

Stem procumbent, slender, pubescent; leaves opposite, oval, slightly serrate; unequal at base, glabrous on the upper surface, hairy underneath and pale; flowers solitary, axillary, much shorter than the leaf.

Plant annual. *Stem* prostrate, branching, 8—12 inches long, hairy, almost villous, branches alternate. *Leaves* finely serrate, obtuse, sometimes acute, somewhat glaucous underneath, about half an inch long, on petioles 1—2 lines long. *Flowers* solitary, appearing clustered at the extremity of the branches, from the shortness of the joints. *Peduncles* 1—2 lines long. *Stipules* 4 at each joint, 3—4 lines long, plumose; petaloid segments of the involucrum 4, white, small. *Capsule* hairy.

This species has commonly been considered here as the E. Thymifolia, Mich.; but its flowers are certainly not in axillary heads or clusters. Dr. Torrey sent me some time ago specimens of it from New-Jersey, under the name of E. Depressa.

Grows in cultivated dry soils, very common.

Flowers through the whole summer.

7. CORDIFOLIA. E.

E. humifusa, ramosissima, glabra; foliis parvulis, oppositis, lato-ovalibus, integerrimis, basi cordatis; floribus axillaribus, solitariis.	**Procumbent, branching, glabrous; leaves small, opposite, broad-oval, entire, cordate at base; flowers axillary, solitary.**

Plant annual. *Stem* prostrate, 8 to 15 inches long, very glabrous, branches alternate. *Leaves* on petioles scarcely a line long, oval, entire, glabrous, unequal and cordate at base, generally 3—4 lines long. *Flowers* solitary, axillary, on pedicells about half as long as the leaves, surrounded at base with incised almost feathered stipules; petalloid segments of the involucrum white.

Grows in cultivated land, common around Beaufort in dry soils.

Flowers in the summer.

8. POLYGONIFOLIA. Lin.

E. humifusa, ramosa, glaberrima, carnosa; foliis oblongo-ovatis, ovalibusque, integerrimis, basi obtusis interdum sub-cordatis; floribus solitariis in dichotomia caulis; stipulis simplicibus. E.	**Procumbent, branching, very glabrous, succulent; leaves oblong-ovate and oval, entire, obtuse at base, sometimes slightly cordate; flowers solitary in the division of the stem; stipules simple.**

Sp. pl. 2. p. 900. Walt. p. 145. Pursh, 2. p. 606? Nutt. 2. p. 227.

In many respects resembling the preceding species, but from its habitat more succulent, its leaves also are longer, more ovate, on longer petioles, more crowded near the summit of the branches, and less cordate, the flowers on shorter peduncles, and the petaloid segments of the involucrum uncoloured. The stipules which in the former species are many cleft, in this are subulate, simple, or sometimes one has a single division.

Grows on the drifting sands of the sea-shore, frequently covered with sand excepting the extremities of the branches. This appears to be the real E.

Polygonifolia of Clayton, (consequently of Linnæus) who speaks of it as a maritime plant. I quote Pursh with great hesitation.

Flowers through the whole summer.

9. IPECACUANHÆ. Lin.

E. procumbens erectaque, pumila, glabra; foliis oppositis, obovatis lanceolatisque; pedunculis axillaribus; unifloris, elongatis.	Procumbent and erect, small, glabrous; leaves opposite, obovate and lanceolate; peduncles axillary, one-flowered, long.

Sp. pl. 2. p. 900. Mich. 2. p. 212. Pursh, 2. p. 606. Nutt. 2. p. 227.

Plant perennial, with very long creeping roots. *Stem* generally short, sometimes buried in the sand and appearing fasciculate and leafless, sometimes erect 12—15 inches high. *Leaves* opposite, sessile, elliptic or obovate, (sometimes linear, Mich.) entire, glabrous. *Flowers* solitary in the divisions of the stem. *Peduncle* about as long as the leaves.

Grows in dry sandy soils.

Flowers from April to July, perhaps through the whole summer.

10. GRACILIS. E.

E. caule erecto, dichotomo, glabro; foliis oppositis, remotis, sessilibus, linear-lanceolatis; pedunculis solitariis in dichotomia caulis, foliis longioribus.	Stem erect, dichotomous, glabrous; leaves opposite, remote, sessile, lineari-lanceolate; peduncles solitary in the divisions of the stem, longer than the leaves.

E. Polygonifolia? Mich. 2. p. 211.

Plant perennial. *Stem* about 12 inches high, like the whole plant glabrous, very regularly dichotomous, the divisions remote for the size of the plant. *Leaves* opposite at the divisions of the stem, linear or linear-lanceolate, entire, sessile. *Peduncle* solitary, longer than the leaf, petaloid segments scarcely coloured.

I have always been accustomed to consider this plant as the E. Polygonifolia of Michaux. Yet it resembles very much, and may be the linear-leaved variety of E. Ipecacuanhæ. The E. Polygonifolia of Pursh I do not know.

Grows in dry sandy soils near Ogeechee Ferry.

Flowers May—July.

11. Pubentissima. Michaux.

E. perennis, erecta, pubentissima; caulibus sub-dichotomis; foliis oppositis, sessilibus, sub-cordato-ovalibus, obtusis; pedunculis solitariis; involucri laciniis interioribus albis.	Perennial, erect, very pubescent; stem somewhat dichotomous; leaves opposite, sessile, oval, slightly cordate, obtuse; peduncles solitary; interior segments of the involucrum white.

Mich. 2. p. 212. Pursh, 2. p. 606. Nutt. 2. p. 227.

Stem 12 to 18 inches high, divided towards the summit, hirsute. *Leaves* opposite, sessile, nearly an inch long, elliptic, entire, not so hairy on the stem, except along the midrib. *Flowers* solitary in the divisions of the stem. *Peduncle* nearly as long as the leaf. *Petaloid Segments* white.

Grows in the pine-barrens in the middle districts of Carolina and Georgia.

Flowers April—July, perhaps as most of our species until October.

12. Helioscopia? Lin.

E. umbella quinquefida, trifida, dichotoma; foliis floralibus obovatis; foliis cuneiformibus, serratis, glabris; capsulis lævibus.	Umbel 5-cleft, 3-cleft, dichotomous; floral leaves obovate; leaves wedge-shaped, serrate, glabrous; capsules smooth.

Sp. pl. 2. p. 914.

Plant annual. *Stem* 12—18 inches high, glabrous, branching. *Leaves* alternate, sessile, cuneate, obovate, finely serrate, glabrous, those at the divisions of the umbel broad-lanceolate. *Umbel* 5-cleft, 3-cleft, the small branches finally dichotomous. The flowers solitary in the divisions of the umbel, small, on peduncles one to two lines long. *Fruit* tuberculate.

This species approaches very nearly to the E. Helioscopia of Europe, although its roughened fruit and the lanceolate leaves of the umbel may serve to distinguish it. It is, I think, certainly indigenous.

Found in damp clay soils near the Horse-shoe Bridge, Ashepoo; on Hutchinson's Island, opposite Savannah,

Flowers May.

13. COROLLATA. Lin.

E. umbella 5-fida, 3-fida, dichotoma; foliis floralibus foliisque oblongis, obtusis; involucri laciniis interioribus petaoideis, obovatis.

Umbel 5-cleft, 3-cleft, dichotomous; floral leaves and those of the stem oblong, obtuse; interior segments of the involucrum resembling petals, obovate.

Sp. pl. 2. p. 916. Walt. p. 145. Mich. 2. p. 210. Pursh, 2. p. 607. Nutt. 2. p. 227.

Root perennial. *Stem* herbaceous, about 2 feet high, terete, a little hairy, rarely branched. *Leaves* alternate, oval, glabrous on the upper surface, paler and sprinkled with hairs underneath, on petioles 1—2 lines long. *Flowers* in a terminal umbel, each floret solitary in the divisions of the stem, on peduncles 3—4 lines long. *Petaloid segments* of the involucrum more conspicuous than usual in this genus, obovate, white. *Fruit* glabrous.

This species varies much in the size and breadth of its leaves. I have found it also with 5 rays to the umbel. The following, if no more than a variety, deserved to be noticed.

Var. ANGUSTIFOLIA.

Leaves 3—4 inches long, linear-lanceolate, sessile as in the common variety, paler and hairy underneath. *Umbel* 3-fid, rays elongated, the upper branches dichotomous. *Flowers* few, small, thinly scattered near the summit of the branches.

Very common, preferring dry soils. The variety Angustifolia was collected by Mr. Caradeux in St. Thomas, near Charleston.

Flowers May—September.

14. PANICULATA. E.

E. umbella trifida, dichotoma; floribus terminalibus, sub-paniculatis; foliis alternis, ovalibus, sessilibus, subtus sub-pilosis; caule sub-piloso. E.	Umbel 3-cleft, dichotomous; flowers terminal, somewhat paniculate, oval, sessile, slightly hairy underneath; stem somewhat hairy.

Stem 1—2 feet high, slightly angled, very hairy around the base of the leaves. *Leaves* about 1½ inches long, one inch wide, entire with the margin revolute, hairy along the midrib. *Umbel* at first generally 3-fid, the upper branches dichotomous, and near their summits the flowers are numerous, axillary and terminal, with small opposite bracteal leaves at each joint. *Fruit* smooth.

Grows in the middle districts of Carolina and Georgia. Columbia, Mr. Herbemont.

Flowers August—September.

Many opinions have been entertained as to the real structure of the flowers of this genus. Each involucrum (Calyx, Lin.) contains one central female floret, and several *points* near the base bearing stamens, these points or receptacles are as numerous generally as the petaloid segments of the involucrum. Linnæus considered the whole as one flower, the stamens inserted into the calyx, and coming to maturity irregularly. Jussieu first suggested the now prevailing opinion that the structure was monoecious, a common involucrum with a pistilliferous floret in the centre, surrounded by clusters of monandrous florets, each cluster generally containing 3—5 florets, separated by bristles or membranaceous multifid leaves, and these florets naturally coming to maturity at different periods.

PHYLLANTHUS. GEN. PL. 1412.

Masculi. *Calyx* 6-partitus. *Corolla* 0. *Filamentum* columnare. *Antheræ* 3.	*Sterile florets.* *Calyx* 6-parted. *Corolla* 0. *Filaments* columnar. *Anthers* 3.
Foeminei. *Calyx* 6-partitus. *Corolla* 0. *Nectarium* margo 12-angulatus. *Styli* 3. *Capsula* 3-locularis. *Semen* 1.	*Fertile florets.* *Calyx* 6-parted. *Corolla* 0. *Nectary* a margin 12-angled. *Styles* 3. *Capsule* 3-celled. *Seed* 1 in each cell.

1. Caroliniensis. Walt.

P. foliis alternis, ovalibus, obtusis, glabris, sub-distichis; floribus paucis (2—4), axillaribus, pedicellatis, nutantibus; caule erecto, vistiche ramoso. E.

Leaves alternate, oval, obtuse, glabrous, somewhat distichous; flowers few (2—4), axillary, on pedicels, nodding; stem erect, branches distichous.

Walt. p. 228. Mich. 2. p. 209.
P. Obovatus, Sp. pl. 4. p. 574. Pursh, 2. p. 443. Nutt. 2. p. 227.

Plant annual. *Stem* about 12 inches high, glabrous, with alternate branches distichally expanding. *Leaves* alternate, oval, generally obtuse, entire, glabrous, the upper ones lanceolate, all distichous, on petioles about 1 line long. *Flowers* axillary, nodding, on very short pedicels, 2—4 at each axil, fertile and sterile intermingled. *Calyx* of both florets 6-leaved? *Leaves* reddish at base, white along the margin. *Stamens* 6, united at base. *Style* 3, very short, 2-cleft. *Capsule* globose, somewhat depressed, 6? celled, 6-valved, the valves opening elastically. *Seed* striate with elevated dots.

As the leaves of this plant are very *rarely* obovate, I have restored the original name proposed by Walter.

Grows in damp soils, Prince William's, near Charleston.

Flowers September—October.

MELOTHRIA. Gen. Pl. 68.

Masculi. *Calyx* monophyllus, 3—5 dentatus. *Corolla* campanulata. *Stamina* 3, tubo corollæ adnata.

Foeminei. *Calyx* et *Corolla* ut in masc. *Germen* inferum. *Stylus* 1. *Stigmata* 3. *Bacca* 3-locularis, polysperma.

Sterile florets. *Calyx* one-leaved, 3—5 toothed. *Corolla* campanulate. *Stamens* 3, attached to the tube of the corolla.

Fertile Florets. *Calyx* and *Corolla* as in the sterile. *Germ* inferior. *Style* 1. *Stigma* 3. *Berry* 3-celled, many seeded.

1. PENDULA.

M. foliis sub-reniformibus, lobato-angulosis, sub-hispidis; bacca ovali, glabra.	Leaves somewhat reniform, lobed and angled, slightly hispid, berry oval, smooth.

Sp. pl. 1. p. 189. Walt. p. 66. Mich. 2. p. 217. Pursh, 2. p. 444. Nutt. 2. p. 228.

A slender vine running over small shrubs and herbaceous plants. *Stem* hairy, branching. *Leaves* somewhat hispid, generally 5-angled, the angles acute, dentate, the intermediate one the longest, the hairs jointed and slightly hooked. *Petioles* 1—2 inches long. *Tendrils* 5—6 inches long. *Flowers* axillary, the sterile in small racemes; the fertile solitary. Common peduncle of the sterile florets about 2 inches long. *Calyx* 5-toothed, the teeth subulate. *Corolla* longer than the calyx, yellow, the border 5-lobed. *Stamens* short, a cyathiform gland at the base of the fertile floret. *Berry* 3-celled, small. *Seeds* many in each cell, obovate, compressed.

Grows in shaded, rich soils.

Flowers through the whole summer.

CUCURBITA. GEN. PL. 1478.

Masculi. *Calyx* 5-dentatus. *Corolla* 5-fida. *Filamenta* 3.	*Sterile florets.* *Calyx* 5-toothed. *Corolla* 5-cleft. *Filaments* 3.
Foeminei. *Calyx* 5-dentatus. *Corolla* 5-fida. *Pistillum* 3-fidum. *Peponis* semina margine tumido.	*Fertile florets.* *Calyx* 5-toothed. *Corolla* 5-cleft. *Pistil* 3-cleft. *Seeds* of the fruit (a melon) with a tumid margin.

1. LAGENARIA. Lin.

C. foliis cordatis, rotundato-obtusis, pubescentibus, denticulatis, basi subtus biglandulo-	Leaves cordate, nearly circular, pubescent, toothed, underneath at base bearing

sis, peponibus lignosis clavatis.	2 glands; fruit woody, clavate or obovate.

Sp. pl. 4. p. 606. Nutt. 2. p. 228.

A large, coarse, strong-scented vine, generally procumbent, but sometimes running over reclining trees. *Stem* and leaves tomentose. *Leaves* cordate, nearly round, 10—15 inches in diameter, undulate or slightly lobed. *Flowers* solitary, axillary, the early florets and those near the summit of the branches generally sterile. *Corolla* large, white. *Fruit* varying like all cultivated plants very much, round, pyriform, clavate, straight or curved, the exterior coat hard, almost woody.

The Calabash is rarely found growing in woods, and is certainly not indigenous. It appears to have been brought by the antient inhabitants of our country from a warm climate. It now grows spontaneously around the settlements, particularly on the sea-islands, and delights in a rich dry soil.

Flowers through the whole summer.

SICYOS. GEN. PL. 1481.

Masculi. *Calyx* 5-dentatus. *Corolla* 5-partita. *Filamenta* 3.	*Sterile florets.* *Calyx* 5-toothed. *Corolla* 5-parted. *Filaments* 3.
Foeminei. *Calyx* 5-dentatus. *Corolla* 5-partita. *Stylus* 3-fidus. *Pepo* monospermus.	*Fertile florets.* *Calyx* 5-toothed. *Corolla* 5-parted. *Style* 3-cleft. *Fruit* (a melon) one-seeded.

1. ANGULATA.

S. foliis cordatis, 5-angularibus, denticulatis, scabris; fructibus capitatis, hispidis.	Leaves cordate, 5-angled, toothed, scabrous; fruit in clusters, hispid.

Sp. pl. 4. p. 625. Mich. 2. p. 217. Pursh, 2. p. 444. Nutt. 2. p. 229.

A small procumbent vine. *Stem* pubescent. *Leaves* alternate, on petioles 1—2 inches long, cordate, 5-angled, the angles rather acute, scabrous, pubescent particularly along the veins, finely denticulate. *Tendrils* axillary, divided. *Flowers* axillary, the sterile at the summit of racemes 4—6 inches long. The fertile clustered at the summit of peduncles 1—2 inches long. *Peduncles* very hairy. *Corolla* deeply 4-cleft, whitish with green veins. *Styles* 3 united, each bearing 2 or more? anthers. Female floret 6—10 in a head. *Fruit* small, oval or ovate, very hispid.

Grows in the upper districts of Carolina and Georgia, Dr. Macbride.

Flowers June—September.

CLASS XXI.

DIOECIA.

DIANDRIA.

592 VALLISNERIA.
693 SALIX.
594 FRAXINUS.
595 BORYA.
596 CERATIOLA.

TETRANDRIA.

597 VISCUM.
598 MYRICA.
599 ILEX.

PENTANDRIA.

600 HAMILTONIA.
601 NYSSA.
602 VITIS.
603 ZANTHOXYLUM.
604 PANAX.
605 IRESINE.
606 ACNIDA.
607 HUMULUS.

HEXANDRIA.

608 SMILAX.
609 DIOSCOREA.
610 PRINOS.
611 GLEDITSCHIA.

OCTANDRIA.

612 POPULUS.
613 DIOSPYROS.

ENNEANDRIA.

614 HYDROCHARIS.

POLYANDRIA.

615 MENISPERMUM.

MONADELPHIA.

616 JUNIPERUS.

DIOECIA DIANDRIA.

VALLISNERIA. GEN. PL. 1491.

Masculi. Spatha 2-partita. *Spadix* tectus

Sterile florets. Spathe 3-parted. *Spadix*

flosculis. *Corolla* 3-partita.

Foeminei. Spatha 2-fida, 1-flora. *Calyx* 3-partitus, superus. *Corolla* 3-petala. *Capsula* 1-locularis, polysperma.

covered with florets. *Corolla* 3-parted.

Fertile florets. Spathe 2-cleft, 1-flowered. *Calyx* 3-parted, superior. *Corolla* 3-petalled. *Capsule* 1-celled, many seeded.

1. AMERICANA. Mich.

V. foliis linearibus, obtusis, 3-nervibus, serrulatis; pedunculis masculis brevissimis, foemineis spiralibus. Nutt.

Leaves linear, obtuse, 3-nerved, serrulate; peduncles of the sterile florets very short, of the fertile spiral.

Mich. 2. p. 220. Sp. pl. 4. p. 651. Pursh, 2. p. 602. Nutt. 2. p. 230.

An aquatic plant, floating or growing in stagnant or slow-flowing streams. *Leaves* all radical. *Scapes* axillary. *Female flowers* generally furnished with a spiral filiform scape, so as to admit them to rise to the surface of the water when ready to expand. *Scape* of the sterile floret very short, always submersed; the flower itself, when mature, separates from the scape, rises to the surface of the water, expands and floats among the female florets until it decays. The female floret, after the period of inflorescence, sinks beneath the surface of the water and matures the fruit. Nutt.

Grows from New-York to Florida. Nutt. This, like many of our aquatic plants, has escaped my notice.

Flowers August—October. Pursh.

SALIX. GEN. PL. 1493.

Masculi. Amentum cylindraceum. *Calyx* squama. *Corolla* 0. *Stamina* 1—6, glandula baseos nectarifera.

Sterile florets. Ament cylindrical. *Calyx* a scale. *Corolla* 0. *Stamens* 1—6, with a nectariferous gland at base.

Foeminei. Amentum cylindraceum. *Calyx* squama. *Corolla* 0. *Stylus* 2-fidus. *Capsula* 1-locularis, 2-valvis, *Semina* papposa.

Fertile florets. Aments cylindrical. *Calyx* a scale. *Corolla* 0. *Style* 2-cleft. *Capsule* 1-celled, 2-valved. *Seed* crowned with a pappus.

* *Foliis integerrimis aut obsolete serratis.*

* *Leaves entire or obscurely serrate.*

1. **Muhlenbergiana.** Willd.

S. foliis lanceolatis, acutiusculis, subintegerrimis, pubescenti-canis, subtus rugoso-venosis, margine revolutis; stipulis deciduis, lanceolatis; amentis præcocibus diandris, squamis oblongis margine villosis; germinibus ovato-lanceolatis, sericeo-villosis longe pedicellatis; stylo brevi; stigmatibus bifidis.

Leaves lanceolate, nearly acute and entire, pubescent, hoary; rugosely veined underneath, with the margins revolute; stipules deciduous lanceolate; aments appearing before the leaves, diandrous; scales oblong, the margins villous; germs ovate-lanceolate, cloathed with silken hairs, on long pedicels; style short; stigmas two-cleft.

Sp. pl. 4. p. 692. Pursh, 2. p. 609. Nutt. 2. p. 231.
S. Alpina? Walt. p. 243.

A shrub 1—4 feet high, often decumbent with pubescent branches. *Leaves* lanceolate, nearly acute, entire, though sometimes furnished with 1 or 2 obsolete teeth, hoary and pubescent on the upper surface, white and tomentose underneath. *Stipules* short, lanceolate, deciduous. *Scales* of

the fertile florets oblong, villous along the margin. *Germs* pedicellate, villous. *Style* short *Stigma* 4-cleft. Willdenow.

Grows in shady dry woods from New-York to Virginia. If the quotation from Walter is correct, extending along the Mountains to Carolina.

Flowers—

2. TRISTIS. Aiton.

S. foliis lineari-lanceolatis, utrinque acutis, integerrimis, margine revolutis, supra glabriusculis subtus rugoso-venosis, tomentosis; stipulis nullis, amentis præcocibus oblongis.

Leaves linear-lanceolate, acute at each end, entire with the margins revolute, glabrous on the upper surface, rugosely veined and tomentose underneath; stipules 0; aments appearing before the leaves.

Sp. pl. 4. p. 693. Pursh, 2. p. 609. Nutt. 2. p. 231.

Resembles the preceding species, but differs in the form of the leaf and by the absence of stipules. Willd.

Grows in dry sandy woods; New-Jersey to Carolina. Pursh.

Flowers March—April.

3. ROSMARINIFOLIA. Lin.

S. foliis lineari-lanceolatis, subintegerrimis, planis, supra pubescentibus, subtus sericeis; germinibus lanceolatis, villosis; stylis elongatis.

Leaves linear-lanceolate, nearly entire, flat, pubescent on the upper surface, silky underneath; germs lanceolate, villous; styles long.

Sp. pl. 4. p. 697. Pursh, 2. p. 612. Nutt. 231.

A shrub 1—3 feet high, the branches covered with a silken pubescence. *Leaves* about an inch long, linear-lanceolate, on the upper surface hoary and covered with appressed hairs, becoming glabrous when old; on the under cloathed with a silken pubescence, furnished with a few, very small, glandular teeth. *Stipules* lanceolate, subulate, silky. *Aments* early, (before the leaves.) *Scales* oblong, obtuse, hairy along the margin. *Germs* lanceolate, villous. *Styles* long. *Stigmas* 2. Willd.

Grows in wet meadows and mountain swamps; Pennsylvania to Carolina. Pursh.

Flowers March—April.

** *Foliis serratis.*

** *Leaves serrate.*

4. CONIFERA. Wangenheim.

S. foliis oblongo-lanceolatis, remote serrulatis, supra glabris, subtus planis, tomentosis; stipulis lunatis, subdentatis; germinibus lanceolatis, villosis; stylo elongato.

Leaves oblong-lanceolate, remotely serrulate, glabrous on the upper surface; flat and tomentose underneath; stipules falcate, slightly toothed; germs lanceolate, villous; style long.

Sp. pl. 4. p. 705. Pursh, 2. p. 612. Nutt. 2. p. 231.
S. Longirostris, Mich. 2. p. 226.

A small shrub, the branches when young pubescent. *Leaves* oblong-lanceolate, acute, finely and acutely serrate, entire near the base, green and glabrous on the upper surface, soft and tomentose underneath, almost glabrous when old. *Petioles* long. *Ament* early. *Scales* lanceolate, very villous. *Germ* lanceolate, villous. *Style* long. *Stigmas* four.

Grows in shaded, dry, gravelly soils. Pursh.

Flowers March—April.

5. DISCOLOR.

S. foliis oblongis, obtusiusculis, glabris, remote serratis, apice integerrimis, subtus glaucis; amentis sub-coætaneis; germinibus sessilibus, lanceolatis, pilosis.

Leaves oblong, rather obtuse, glabrous, remotely serrate, entire near the summit, glaucous underneath; aments appearing with the leaves; germs sessile, lanceolate, hairy.

Sp. pl. 4. p. 665. Pursh, 2. p. 613. Nutt. 2. p. 231.

A shrub, rarely becoming a tree, branches obscurely brown. *Leaves* 10—15 lines long, rather acute, remotely serrate, entire near the summit, glabrous on both surfaces, glaucous underneath. *Petioles* when young pubescent, when old glabrous. *Stipules* small, lanceolate, deciduous. *Aments* about an inch long. *Scales* oblong, acute, hairy. *Anthers* at first reddish. *Germs* hairy. *Stigma* 4-cleft. Willd.

Grows along the banks of Rivers, common. Pursh. New-England to Carolina.

Flowers April.

6. HOUSTONIANA. Pursh.

S. foliis lineari-lanceolatis, acutis, tenuissime serratis, utrinque glabris, nitidis, concoloribus; stipulis nullis; amentis coætaneis, cylindricis, villosis; squamis ovatis, acutis; filamentis 3—5, usque ad medium barbatis.	Leaves linear-lanceolate, acute, finely serrate, glabrous, shining, and uniformly coloured on both surfaces; stipules 0; aments appearing with the leaves, cylindrical, villous; scales ovate, acute; filaments 3—5, bearded to the middle.

Pursh, 2. p. 614.

Of this species I know nothing. Pursh, upon whose authority it rests, only says that its branches are very brittle at base; and that it grows in Virginia and Carolina.

7. NIGRA.

S. foliis lanceolatis, acuminatis, serratis, glabris; petiolis pubescentibus; amentis coætaneis, tetrandris; germinibus pedicellatis, subulatis, glabris.	Leaves lanceolate, acuminate, serrate, glabrous; petioles pubescent; aments appearing with the leaves, tetrandrous; germs on pedicels, subulate, glabrous.

Sp. pl. 4. p. 657. Pursh, 2. p. 614. Nutt. 2. p. 231.
S. Pentandra, Walt. p. 243.
S. Caroliniana, Mich. 2. p. 226.

A small tree, from 15—20 feet high, generally branching from the base. *Leaves* alternate, lanceolate, slightly acuminate, serrulate, glabrous; the earliest leaves slightly pubescent. *Petioles* 1—2 lines long. Sterile aments about 3 inches long. *Scales* obovate, obtuse, villous. *Filaments* generally 5, but varying from 3—6, much longer than the scale. *Ament* of fertile flowers 10—15 lines long. *Stigmas* 3-cleft. *Capsule* oblong, ovate, glabrous.

We have a remarkable variety of this plant, the young branches and leaves pubescent, somewhat hoary, almost tomentose; but I have been able to perceive no other difference either in the shape or size of the leaves of the tree, or in the period of flowering.

This, I believe, is the only species of Salix which is found in the low country of Carolina, except the exotic S. Babylonica and the S. Vitellina, which are occasionally cultivated in gardens.

It grows in great abundance along the margins of fresh-water rivers, in swamps and wet soils. On the rivers where the stems are found sufficiently large, I am informed that they are used for the timbers of boats, and are considered light and durable.

Flowers in March.

FRAXINUS. Gen. Pl. 1597.

Masculi rariter Hermaph. *Calyx* 0, sive 4-partitus. *Corolla* 0, sive 4-petala. *Stamina* 2. *Pistillum* 1. *Samara* 1-sperma ala lanceolata terminata.

Foeminei. *Calyx* et *Corolla* ut in masculo. *Stamina* 0. *Pistillum* 1. *Samara* 1-sperma ala lanceolata terminata.

Sterile florets. *Calyx* 0, or 4-parted. *Corolla* 0, or 4-petalled. *Stamens* 2, (sometimes bearing a germ and seed.)

Fertile florets. *Calyx* and *Corolla* as in the sterile. *Stamens* 0. *Pistil* 1. *Samara* 1-seeded, terminated with a lanceolate wing.

1. Epiptera. Mich.

F. foliolis lanceolato-ellipticis, sub-serratis; samaris cuneatis, apice obtusis, emarginatis, inferne teretibus.	Leaflets elliptic-lanceolate, slightly serrate; samara cuneate, obtuse and emarginate at the summit, terete at base.

Sp. pl. 4. p. 1102. Mich. 2. p. 256. Pursh, 1. p. 8. Nutt. 2. p. 231.

A tree of middling size, 40—60 feet in height, and rarely exceeding 2 feet in diameter. *Leaves* unequally pinnate. *Leaflets* 3—4 pair, oval-lanceolate, acuminate, obscurely serrate, strongly veined, almost ribbed, very glabrous. *Flowers* in small axillary panicles. *Stamens* much longer than the rudiments of the corolla. The fruit in panicles composed of small clusters, terete at base, extending from the summit a very long narrow wing, slightly emarginate at the summit.

Grows in the high river swamps, Santee. Dr. Macbride.

Flowers in March.

2. Acuminata. La Marck.

F. foliolis petiolatis, oblongis, nitidis, acuminatis, integerrimis, subtus glaucis; floribus calyculatis.	Leaflets on petioles, oblong, shining, acuminate, entire, glaucous underneath; flowers calyculate.

Pursh, 1. p. 9. Nutt. 2. p. 231.
F. Americana, Sp. pl. 4. p. 1102. Walt. p. 254.
Icon. Mich. arb. for. 3. p. 106.

A tree 50—70 feet high, and sometimes 2—3 feet in diameter. *Leaves* opposite, and as in all of the American species of the genus unequally pinnate. *Leaflets*, 3—4 pair, oval-lanceolate, acuminate, generally entire, glabrous underneath. *Fruit* somewhat terete at base, with a long lanceolate wing extending from the centre.

The wood of this species, under the name of White Ash, is said by Michaux to be employed in preference to that of the other species of this genus. I believe, however, they are all indiscriminately used. Their wood is light, elastic, and sufficiently strong, and is much used by Carriage-Makers, Wheelwrights, and Cabinet-Makers.

Grows as most if not all of the genus, in rich swamp or bottom land.

Flowers March.

3. CAROLINIANA.

F. foliolis petiolatis, lanceolatis, serrulatis, nitidis, glabris; ramulis glabris; floribus calyculatis.	Leaflets on petioles, lanceolate, serrulate, shining, glabrous; flowers calyculate.

Sp. pl. 4. p. 1103. Pursh, 1. p. 9. Nutt. 2. p. 231.

Buds dusky as in the preceding species. *Leaves* pinnate. *Leaflets* generally 3 pair, about 2 inches long, lanceolate, tapering at the summit, rather obtuse, slightly and obtusely serrulate, entire and narrowed at base, glabrous on both surfaces, shining on the upper. *Flowers* calyculate. Willd.

Grows in rocky situations; Pennsylvania and Carolina, scarce. Pursh.

Flowers April.

4. PLATYCARPA. Mich.

F. foliolis petiolatis serratis, samarisque lanceolato-ellipticis.	Leaflets on petioles, serrate, and like the fruit lanceolate-elliptic.

Sp. pl. 4. p. 1103. Mich. 2. p. 256. Pursh, 1. p. 9. Nutt. 2. p. 231.
F. Excelsior? Walt. p. 254.

A small tree. *Leaves* opposite, unequally pinnate. *Leaflets* oval-lanceolate, acute, finely but acutely serrate, paler underneath, veins prominent, pubescent when young, on petioles 2—3 lines long. Wing of the fruit broad, lanceolate, slightly emarginate at the summit, extending from the base of the seed.

Michaux says that this tree rarely exceeds 30 feet in height. I think it sometimes becomes a large tree. I have seen, however, as he remarks, young shoots (probably from old roots) not exceeding ten feet in height, bearing flowers and fruit in great profusion.

Grows in deep swamps.

Flowers March.

5. PUBESCENS. Walt.

F. foliolis petiolatis, elliptico-ovatis, serratis, subtus petiolis ra-	Leaflets on petioles, elliptic-ovate, serrate, the under surface, peti-

mulisque tomentosis; floribus calyculatis.	oles and young branches tomentose; flowers calyculate.

Sp. pl. 4. p. 1103. Walt. p. 254. Pursh, 1. p. 9. Nutt. 2. p. 231. F. Tomentosa, Mich. arb. for. 3. p. 112.

A tree 50—60 feet high, and generally from 1—2 in diameter. *Leaves* opposite, unequally pinnate. *Leaflets* 3 or 4 pair, ovate-lanceolate, acuminate with a long summit, serrate, pubescent or tomentose underneath; on petioles 2—3 lines long. Wing of the fruit oblong-lanceolate, slightly emarginate, extending nearly to its base.

Grows in swamps and damp rich soils.

Flowers March—April.

6. TRIPTERA. Nutt.

F. foliolis obovatis, integerrimis, subsessilibus, subtus tomentosis, basi obliquis, fructibus latioribus, obovatis, plerumque trialatis, basi attenuatis.	Leaflets obovate, entire, nearly sessile, tomentose underneath, oblique at base; fruit broad, obovate, generally 3-winged, tapering at base.

Nutt. 2. p. 232.

Points of the leaves obtuse, the underside paler and softly villous, the common petiole and nerves beneath smooth. *Fruit*, at first sight, almost similar to Halesia; more frequently 3 than 2 winged; the seed also 3-sided. Nuttall.

Grows in the oak forests of Carolina. Nutt.

Flowers—

BORYA. Willd.

Masculi. *Calyx* 4-phyllus. *Corolla* 0. *Stamina* 2—3.	*Sterile florets.* *Calyx* 4-leaved. *Corolla* 0. *Stamens* 2—3.
Foeminei. *Calyx* 4-phyllus, inæqualis. *Corolla* 0. *Stigma* capi-	*Fertile florets.* *Calyx* 4-leaved, unequal. *Corolla* 0. *Stigma*

tatum. *Bacca* monosperma.	capitate. *Berry* 1-seeded.

1. Porulosa. Mich.

B. foliis oblongo-lanceolatis, obtusis, sessilibus, coriaceis, margine revolutis, subtus punctatis.	Leaves oblong-lanceolate, obtuse, sessile, coriaceous, dotted underneath, the margins revolute.

Sp. pl. 4. p. 711. Pursh. 1. p. 22. Nutt. 2. p. 232.
Adelia Porulosa, Mich. 2. p. 224.

Leaves ferruginous underneath. Mich.
This species I have not seen.
Grows along the sea-coast of Florida. Mich. In Georgia. Pursh.
Flowers—

2. Acuminata. Mich.

B. foliis ovali-lanceolatis, utrinque attenuatis, petiolatis, membranaceis, lævissime serrulatis.	Leaves oval-lanceolate, tapering at each end, on petioles, membranaceous, slightly serrulate.

Sp. pl. 4. p. 711. Pursh, 1. p. 22. Nutt. 2. p: 232.
Adelia Acuminata, Mich. 2. p. 225.

Berry oblong, when young tapering to an acute point. *Kernel* striate or furrowed, resembling a nut. Mich.

Of this species I cannot speak with confidence. The shrub which the Botanists who have visited the Southern States, have been accustomed to refer to it, resembles it in habit, except that it wants the spinous processes which are represented in Michaux's figure. But the calyx is 4-parted, the stamens 4, inserted in the calyx, and some of the flowers appear polygamous. It probably belongs to a distinct genus; but, as I have not seen the living plant, I cannot decide.

Grows along the margins of rivers in Carolina and Georgia. Mich
Flowers—

CERATIOLA. Mich.

Masculi. *Calyx* imbricatus, squamis plurimis (6—8.) *Corolla* 0. *Stamina* 2, exserta.

Foeminei. *Calyx* imbricatus, squamis plurimis. *Corolla* 0. *Stylus* 1, brevis. *Stigma* inæqualiter multipartitum. *Bacca* 2-sperma.

Sterile florets. *Calyx* imbricate, scales numerous (6—8.) *Corolla* 0. *Stamens* 2, exserted.

Fertile florets. *Calyx* imbricate, scales numerous. *Corolla* 0. *Style* 1, short. *Stigma* unequally many-parted. *Berry* 2-seeded.

1. ERICOIDES. Mich.

Mich. 2. p. 222. Sp. pl. 4. p. 712. Pursh, 1. p. 21. Nutt. 2. p. 232.

An evergreen shrub, 4—8 feet high, branches virgate, somewhat verticillate; when young tomentose. *Leaves* linear, glabrous, rigid, with the margins revolute, 6—8 lines long, verticillate, 3—4 in each whorl. *Flowers* axillary, verticillate, sessile. *Scales* of the calyx tomentose on the margin, persistent. *Berry* small, yellowish, 2-seeded, somewhat persistent. *Seed* hard.

This singular plant, which resembles the genus Erica so much in its appearance and habit, though not in its seminal affinities, grows generally in the most dry and sandy soils. Near Murphy's Bridge, on the Edisto River, it covers a space of 3 or 400 yards wide and two or three miles long, which appears to have been a sand bank formed by some of the antient freshets of that river, and on which only lichens and a few stunted oaks (Q. Catesbæi and Nigra) are found intermingled with it. Near Augusta, Mr. Nuttall. St. Mary's, Pursh. On the sand-hills between Camden and Columbia.

Flowers August and September? The berries are ripe in November.

DIOECIA TETRANDRIA.

VISCUM. GEN. PL. 1504.

Masculi. *Calyx* 4-partitus. *Corolla* 0. *Filamenta* 0. *Antheræ* calyci adnatæ.	*Sterile florets.* *Calyx* 4-parted. *Corolla* 0. *Filaments* 0. *Anthers* attached to the calyx.
Foeminei. *Calyx* 4 phyllus, superus. *Stylus* 0. *Corolla* 0. *Bacca* 1-sperma. *Semen* cordatum.	*Fertile florets.* *Calyx* 4-leaved, superior. *Style* 0. *Corolla* 0. *Berry* 1-seeded. *Seed* cordate.

1. VERTICILLATUM. Lin.

V. ramulis oppositis verticillatisque; foliis cuneato-obovatis, 3 nervibus; spicis axillaribus, foliis paulo brevioribus; baccis albescentibus. E.	Branches opposite and verticillate; leaves cuneate-obovate, 3-nerved; spikes axillary, a little shorter than the leaves; berries nearly white.

Sp. pl. 4. p. 741. Nutt. 2. p. 235.
V. Album, Walt. p. 241.
V. Flavescens. Pursh, 1. p. 114.

A small shrub, growing parasitically on the branches of old or decaying trees; rarely however found on the pine or cedar. *Stem* 1—2 feet long, branches opposite or verticillate by fours. *Leaves* perennial, nearly sessile, tapering at base, 3-nerved, entire, obovate, obtuse, like the branches opposite or verticillate. *Spike* axillary, opposite or verticillate, nearly as long as the leaves. *Florets* very small. *Berries* yellowish white, pellucid.

Flowers April and May.

The V. Rubrum and Purpureum I have never seen. They are said by Catesby to inhabit the Bahama Islands, and to be found on trees foreign to our climate.

MYRICA. Gen. Pl. 1510.

Masculi. *Amentum* oblongum. *Calyx* squama ovata. *Corolla* 0.	*Sterile floret.* *Ament* oblong. *Calyx* an ovate scale. *Corolla* 0.
Foeminei. *Amentum* oblongum. *Calyx* squama ovata. *Corolla* 0. *Styli* 2. *Drupa* monosperma.	*Fertile florets.* *Ament* oblong. *Calyx* an ovate scale. *Corolla* 0. *Styles* 2. *Drupe* one-seeded.

1. Cerifera. Lin.

M. foliis cuneato-lanceolatis, acutis, apice rariter serratis; amentis masculis laxis; squamis acutis; fructibus globosis minoribus.	Leaves cuneate-lanceolate, acute, with a few serratures near the summit; sterile aments loose; scales acute; fruit globular, small.

Sp. pl. 4. p. 745. Walt. p. 242. Mich. 2. p. 227. Pursh, 2. p. 620. Nutt. 2. p. 235.

A small tree 10—18 feet high, diffusely branching, the small branches crowded near the summit of the larger ones. *Leaves* perennial, alternate, somewhat coriaceous, linear-lanceolate, sometimes entire, glabrous, dotted, nearly sessile; when young a little pubescent. *Flowers* in short cylindrical, axillary aments. *Scale* nearly round. *Filaments* 4, longer than the scales. *Styles* of the fertile florets 2, longer than the scales. *Stigma* simple.

This tree bears its small grey fruit in great profusion. These little drupes appear to the eye dry and juiceless, but by boiling, a wax of a very pleasant flavour is extracted from them, which is used in the manufacture of soap and candles.

Grows in almost all soils, preferring those which are wet and swampy.

Flowers in March—April.

2. Caroliniensis.

M. foliis cuneato-oblongis, grosse denta-	Leaves cuneate-oblong, coarsely toothed;

tis; amentis masculis laxis; squamis acutis; fructibus globosis majoribus.	sterile aments loose; scales acute; fruit globular, large.

Sp. pl. 4. p. 746. Pursh, 2. p. 620. Nutt. 2. p. 235.

Very similar to the preceding, but the stem is only 4 or 5 feet high, and the leaves wider, coarsely toothed, and never entire. Willd.

This species appears to include both the varieties Media and Pumila of the M. Cerifera of Michaux. I have found it very difficult to ascertain any specific distinctions; it is, however, a smaller shrub, generally growing about 3 feet high, and its leaves and fruit are larger.

Grows generally in damp pine-barrens; sometimes found in very dry soils.

Flowers in March and April.

ILEX. Gen. Pl.

Masculi. *Calyx* 4-dentatus. *Corolla* rotata. *Stamina* 4, inter lacinias corollæ inserta.	*Sterile florets.* *Calyx* 4-toothed. *Corolla* rotate. *Stamens* 4, inserted in the divisions of the corolla.
Foeminei. *Calyx* 4-dentatus. *Corolla* rotata. *Stylus* 0. *Stigmata* 2? *Bacca* 4-sperma.	*Fertile florets.* *Calyx* 4-toothed. *Corolla* rotata. *Slyte* 0. *Stigmas* 2? *Berry* 4-seeded.

1. Opaca. Aiton.

I. foliis ovali-lanceolatis, acutis, spinosis, glabris, planis; floribus ad basis ramulorum annotinorum sparsis.	Leaves oval-lanceolate, acute, spiny, glabrous, flat; flowers scattered at the base of the branches a year old.

Sp. pl. 1. p. 708. Mich. 2. p. 228. Pursh, 1. p. 117. Nutt. 1. p. 109. J. Aquifolium, Walt. p.

A very beautiful tree, growing in rich soils 30—40 feet in height, and 1—2 feet in diameter, with a compact, dense, generally oblong head. *Leaves* alternate, oval-lanceolate, dentate, the teeth spinous, glabrous, coriaceous, perennial, lucid on the upper surface, on short petioles. *Flowers* clustered at the base of the small branches, on short peduncles. *Calyx* small, with 4 minute teeth. *Corolla* small, rotate, 4-parted, white. *Fruit,* as in all of our species, a bright scarlet berry, bearing four seeds.

This is one of our most ornamental trees; its bright deep green, perennial leaves, and the brilliant colour of its berries, which remain on their pedicels generally until February, render it in the depths of our winter very conspicuous in our forest scenery. The wood is fine-grained, compact, hard, and is used by Cabinet-Makers and Turners in many of their fabrications.

Grows in rich dry soils.

Flowers April—May.

2. Dahoon. Walt.

I. foliis oblongo-lanceolatis, junioribus spinoso-serratis, veteribus sub-integris; fasciculis florum pedunculatis.	Leaves oblong-lanceolate, when young armed with spiny serratures, when old frequently entire; clusters of flowers pedunculate.

Walt. p. 241. Mich. 2. p. 228. Pursh, 1. p. 117. Nutt. 1. p. 109.
J. Cassine, Sp. pl. 1. p. 709.

A very handsome shrub, 4 to 10 or I2 feet high, with long virgate branches. *Leaves* alternate, lanceolate, coriaceous, glabrous, acute; when young the serratures are sometimes as acute as those of the I. Opaca; when old the leaves are frequently entire. *Flowers* axillary in paniculate clusters, 6—10 in each cluster. *Corolla* white, small. *Berry* red, persistent.

This plant, wherever in this country it has a popular name, is distinguished as the Dahoon Holly.

Grows in swamps.

Flowers May.

3. Ligustirna.

I. foliis lineari-lanceolatis, basi cuneatis, plerumque integerrimis; floribus fertilibus solitariis. E.	Leaves linear-lanceolate, cuneate at base, generally entire; fertile florets solitary.

I. Angustifolia, Muhl. Cat.
I. Angustifolia var. Ligustrifolia, Pursh, 2. p. 118.

A shrub 6—10 feet high, like the rest of the genus Stoloniferous, branches expanding. *Leaves* acute, rigid, coriaceous, perennial. *Fruit* scattered, solitary.

This shrub has been to me very rare. I have only seen it once, and then in fruit. Its leaves are as long as those of the I. Dahoon, but not half as wide; entire, very acute, but not mucronate. It is the I. Angustifolia of Muhl. Cat.; but this name has been applied to the next species, and to avoid confusion I have restored to this plant the name under which I understand it was cultivated in the garden of the late William Hamilton of the Woodlands, Philadelphia.

Found in fruit in the little Ogeechee Swamp at Preston's Old Field, about 12 miles from Savannah.

4. MYRTIFOLIA. Walt.

I. foliis lineari-lanceolatis, mucronatis, rigidis, utrinque glaberrimis; floribus fertilibus, solitariis. Mich.	Leaves linear-lanceolate, mucronate, rigid, very glabrous; fertile flowers solitary.

Walt. p. 241. Mich. 1. p. 229.
I. Angustifolia, Pursh, 1. p. 118. Nutt. 1. p. 109.
I. Rosmarinifolia, La Marck. Muhl.

A shrub, or rather a small irregular tree, with branches expanding, rigid, pubescent when very young. *Leaves* alternate, perennial, sometimes entire, occasionally with 2 or 3 sharp serratures. *Petioles* 1—2 lines long, pubescent. *Peduncles* of the sterile flowers compoundly triflorous. *Segments* of the calyx as long as the tube, acute, erect. *Corolla* white. *Segments* oval. *Anthers* nearly white. (Fertile flowers axillary, solitary. Mich.)

Grows around ponds in flat pine-barrens.

Flowers in May.

5. CASSENA.

I. foliis ovalibus, utrinque obtusis, crenato-serratis.	Leaves oval, obtuse at each end, crenately serrate.

Walt. p. 241. Mich. 2. p. 229.
I. Vomitoria, Sp. pl. 1. p. 709. Pursh, 1. p. 118. Nutt. 1. p. 109.

A shrub 6—15 feet high, stoloniferous, branches virgate, erect, the small branches expanding, bark glabrous, smooth, when very young pubescent. *Leaves* alternate, perennial, glabrous, shining, coriaceous. *Flowers* in axillary clusters, each peduncle triflorous. *Peduncles* short, slightly pubescent. Teeth of the calyx very minute. Segments of the corolla obtuse. *Filaments* shorter than the corolla, into which they are inserted between the segments. *Berry* globose, scarlet, 4-celled. *Seed*, one in each cell, boney.

This is a handsome shrub, although its flowers are not conspicuous. It forms neat hedges, but not sufficiently strong to resist hogs and cattle; they are therefore only used as ornaments along the borders of gardens.

Grows in loose soils; very abundant near the ocean. A strong decoction of this plant is used by the tribes of the Creek Indians at the opening of their councils. They send annually to the sea-coast for a supply of the leaves. It acts as a mild emetic; hence the name given it in the Hortus Kewensis. It is universally known in this country as the Cassena, its old and appropriate name. But even if the name of Aiton should be retained to this plant, it is surely incorrect to apply the name of Cassena to another species, and one to which, in this country, it is never given.

Flowers March and April.

6. PRINOIDES.

I. foliis deciduis, ovali-lanceolatis, utrinque acutis, serratis; pedunculis 1-floris, fertilibus solitariis.	Leaves deciduous, oval-lanceolate, acute at each end, serrate; peduncles 1-flowered, the fertile solitary.

Sp. pl. 1. p. 709. Mich. 2. p. 229. Pursh, 1. p. 118. Nutt. 1. p. 109.
J. Decidua, Walt. p. 241.

A shrub 6—8 feet high, and sometimes, I believe, becoming a small tree. *Branches* somewhat virgate. *Leaves* lanceolate, slightly acuminate, glabrous with appressed serratures. (I find that the leaves, as well as flowers of the sterile plant are always smaller than those of the fertile; in each the flowers appear to be clearly hermaphrodite, but in one always abortive. Dr. Baldwin.)

Grows in dry sandy soils.

Flowers April—May.

DIOECIA PENTANDRIA.

HAMILTONIA. Muhl.

Masculi. *Calyx* 5-fidus. *Corolla* 0. *Nectarium* discus 5-dentatus. *Stamina* 5.

Foeminei. *Calyx* 5-fidus. *Corolla* 0. *Nectarium* discus 5-dentatus. *Pistillum* 1. *Drupa* infera?

Sterile floret. *Calyx* 5-cleft. *Corolla* 0. *Nectary* a disk 5-toothed. *Stamens* 5.

Fertile florets. *Calyx* 5-cleft. *Corolla* 0. *Nectary* a disk 5-toothed. *Pistil* 1. *Drupe* inferior?

1. OLEIFERA. Muhl.

Sp. pl. 4. p. 1114. Pursh, 1. p. 178. Nutt. 1. p. 156.
Pyrulariapubera, Mich. 2. p. 233.

A shrub 4—6 feet high. *Leaves* oblong, obovate, acuminate, entire, petiolate, pubescent and strongly veined on the under surface, 2—3 inches long, 1—1½ wide, on short petioles. *Racemes* terminal. *Calyx* of the sterile flower short, campanulate, a glandular disk filling its tubular base. *Nut* globular, depressed, 1-celled, 1-seeded, inclosed in a fleshy base of the calyx, hence appearing inferior. *Perisperm* large, very oily, acrid to the taste. Nutt.

Grows along the margin of mountain streams, Pennsylvania—Georgia. Flowers May—June. Pursh.

NYSSA. GEN. PL. 1599.

Masculi. *Calyx* 5-partitus. *Corolla* 0. *Stamina* 5—10.

Hermaphroditi. *Calyx* 5-partitus. *Corolla* 0. *Stamina* 5. *Pistillum* 1. *Drupa* infera.

Sterile florets. *Calyx* 5-parted. *Corolla* 0. *Stamens* 5—10.

Fertile florets. *Calyx* 5-parted. *Corolla* 0. *Stamens* 5. *Pistil* 1. *Drupe* inferior.

1. MULTIFLORA. Walt.

N. foliis ovali-lanceolatis, integerrimis, utrinque acutis, petiolo, costa media, margineque villosis; pedunculis foemineis multifloris (3—8.)	Leaves oval-lanceolate, entire, acute at each end, with the petiole, midrib and margin villous; fruit bearing peduncles many flowered.

Walt. p. 253.
N. Villosa, Mich. 2. p. 253. Sp. pl. 4. p. 1112. Pursh, 1. p. 177. Nutt. 2. p. 236.
N. Sylvatica, Mich. arb. for. 2. p. 260.

A tree 40—50 feet high, and 1—2 feet in diameter, with a head rather compact and close. *Leaves* oval-lanceolate, entire, rather short, the petiole and under surface generally pubescent, sometimes though rarely villous. *Flowers* in small somewhat umbellate clusters. Fertile florets 5 to 8 or 10 in a cluster, though rarely maturing more than three. Sterile florets more numerous. Common peduncle axillary, solitary, 1—2 inches long. *Drupe* nearly spherical, black-blue.

This tree grows generally in damp clayey soils. Its wood does not easily split, and it is used therefore for the nuts of wheels, and for a few other purposes. It is usually called the Black Gum or high-ground Gum. The leaves with us rarely exceed two inches in length, and differ much from the figure of Michaux.

Flowers in April.

2. AQUATICA. Lin.

N. foliis oblongo-lanceolatis, integerrimis, utrinque acutis, glabris; pedunculis foemineis bifloris.	Leaves oblong-lanceolate, entire, acute at each end, glabrous; fruit bearing peduncles 2-flowered.

Sp. pl. Ed. pr. 1511. Mich. arb. for. 2. p. 265.
N. Biflora, Walt. p. 253. Mich. 2. p. 259. Pursh, 1. p. 177. Nutt. 2. p. 236.

A tree, which around ponds or in poor soils rarely exceeds 30—40 feet in height, but which, in the deep river swamps becomes one of the largest trees of our forests, 60—80 feet in height, and 2—4 in diameter. *Leaves* oblong-lanceolate, very acute, entire, sometimes slightly pubescent underneath. Sterile flowers numerous, very small. *Stamens* in the whole genus, as remarked by Nuttall, variable, but more frequently I believe 5 than 10. Fertile florets almost invariably 2. *Fruit* oval, compressed, dark blue.

Leaves with us longer than those of the N. Multiflora.

Grows in swamps and wet soils.

Flowers April—May.

3. CAPITATA. Walt.

N. foliis brevissime petiolatis, oblongo-lanceolatis, ovalibusque, sub-integerrimis, subtus pubescentibus subcanisque; pedunculis masculis capitatis; foemineis unifloris. E.	Leaves on very short petioles, oblong-lanceolate and oval, nearly entire, pubescent and somewhat hoary underneath; sterile florets capitate; fertile one-flowered.

Walt. p. 253. Mich. arb. for. 2. p. 257.

N. Candicans, Mich. 2. p. 259. Sp. pl. 4. p. 1113. Pursh, 1. p. 177. Nutt. 2. p. 236.

A small irregular tree, very often not exceeding the size of a shrub, and, I believe, rarely reaching the height of 20 feet. *Leaves* oblong-oval, often varying, ovate or obovate, sometimes obtuse, sometimes cuneate at base, always pubescent and somewhat hoary underneath, sometimes denticulate. Sterile flowers in compact heads. *Calyx* tomentose. *Stamens* much longer than the calyx. Fertile florets solitary, on a short peduncle. *Calyx* very tomentose. *Style* sometimes 2-cleft. *Fruit* ovate; when ripe of a dull red colour and pleasantly subacid.

The Ogeechee River appears to be the northern limit of this tree; the pleasant acid of its fruit induced some of the early inhabitants of Georgia to use it as a substitute for the lime, hence its common name of the Ogeechee Lime, but its last flavour is austere.

Grows around ponds in wet sandy soils.

Flowers April—May.

4. TOMENTOSA. Mich.

N. foliis longe petiolatis, oblongis, acumi-	Leaves on long petioles, oblong, acumi-

natis, acute dentatis, subtus tomentosis; pedunculis foemineis unifloris.

nate, acutely toothed, tomentose underneath; fruit bearing peduncles one-flowered.

Mich. 2. p. 259. Sp. pl. 4. p. 1113. Pursh, 1. p. 177. Nutt. 2. p. 236.

Leaves every where acutely and coarsely toothed. Small bracteal leaves longer than the germ. *Segments* of the calyx cuneate. Mich.

With this tree I am unacquainted.

Grows near the river St. Mary's, Georgia, and in Florida. Mich.

Flowers—

5. Uniflora. Walt.

N. foliis longe petiolatis, oblongis, acuminatis, parce angulato-dentatis; subtus subpubescentibus, inferioribus sub-cordatis; pedunculis foemineis unifloris.

Leaves on long petioles, oblong, acuminate, sparingly and angularly toothed, slightly pubescent underneath, the lower ones sometimes cordate; fruit bearing peduncles one-flowered.

N. Angulisans, Mich. 2. p. 259.

N. Denticulata, Ait. Kew. 3. p. 446. Sp. pl. 4. p. 1114. Pursh, 1. p. 178. Nutt. 2. p. 236.

N. Grandidentata, Mich. arb. for. 2. p. 252.

A large tree 60—80 feet in height, 2—4 in diameter. *Leaves* large, ovate and oval-lanceolate, irregularly and acutely toothed, sometimes only on one margin, pubescent underneath, particularly along the nerves, the lower or older leaves distinctly cordate. The sterile florets I have never noticed. Fertile solitary, axillary. *Fruit* oval or ovate, large, dark blue.

Grows in deep swamps. A truly aquatic tree. I have seen it flourishing in mill-ponds and "back waters," where the water has been maintained for half a century from 5 to 8 feet deep. I believe the N. Aquatica grows also in similar situations. The root of this tree is as light as the bark of the cork tree, (Quercus suber) but wants elasticity.

Flowers April—May.

VITIS. Gen. Pl. 396.

Masculi. *Calyx* 5-dentatus. *Corolla*, petala 5, apice cohærentia.

Foeminei. *Calyx* et *Corolla* maris. *Bacca* 5-sperma, supera.

Sterile florets. *Calyx* 5-toothed. *Corolla* 5-petalled, cohering at the summit.

Fertile Florets. *Calyx* and *Corolla* as in the sterile. *Berry* 5-seeded, superior.

1. Rotundifolia. Mich.

V. foliis utrinque lucidis, cordatis, inæqualiter dentatis; racemorum floribus pluries capitulatis; baccis magnis.

Leaves on both sides lucid, cordate, unequally toothed; flowers of the raccemes in many small heads; berries large.

Mich. 2. p. 231. Pursh, 1. p. 169. Nutt. 1. p. 143.
V. Vulpina, Walt. 243.
V. Vulpina? Sp. pl. 1. p. 1181.

This vine varies much in size, sometimes ascending the loftiest trees, more frequently humble. Young branches tomentose. *Leaves* 2—3 inches in diameter, cordate, round, shining, glabrous, but with small tufts of hair at the junction of the veins, commonly with 3—5 prominent teeth, and the residue by no means equal. *Flowers* polygamous, in racemes composed of simple heads, 6—8 flowered. *Fruit* large, 7—8 lines in diameter, covered with a coriaceous integument, the flavor not unpleasant. This species of grape may be, perhaps at some future day, cultivated advantageously.

The real V. Vulpina of Linnæus has been a subject of some doubt. I have long supposed that this may have been his original species. The characters agree sufficiently well, and notwithstanding the remark of Michaux, that this is commonly called the Muscadine Grape, as far as my observations reach, it is, in our low country, uniformly and universally known under the name of Fox Grape. Linnæus may have received his name and specimens from the Southern States.

Grows in light rich soils.

Flowers May. Fruit ripens in July and August.

2. CORDIFOLIA. Mich.

V. foliis cordatis, acuminatis, sub-æqualiter dentatis, utrinque glabris; racemis laxe multifloris; baccis parvulis serotinis.	Leaves cordate, acuminate, almost equally toothed, glabrous on each surface; racemes loosely many flowered; berries small, late.

Mich. 2. p. 231. Pursh, 1. p. 169. Nutt. 1. p. 143.

Berries pale, small, ripening late in the season, of a very tart taste. Pursh. Winter Grape.

Grows in rich soils and along the margins of rivers.

Flowers May.

3. RIPARIA. Mich.

V. foliis inæqualiter incisodentatis breviuscule trifidis; petiolo, nervis margineque pubescentibus.	Leaves unequally notched and toothed; slightly 3-cleft; the petiole, nerves and margin pubescent.

Mich. 2, p. 231. Pursh, 1. p. 169. Nutt. 1. p. 143.

Flowers very fragrant. Pursh.

To this species probably belongs the winter grape of our upper districts, which promises to become valuable when duly cultivated. It is said to surpass in flavour all of our native grapes. I have endeavoured several times unsuccessfully to cultivate it in our low country, and can only speak of it from report.

Grows in rich soils along the margin of rivers.

Flowers May—July. Pursh.

4. ÆSTIVALIS. Mich.

V. foliis lato-cordatis, 3—5 lobatis, subtus tomentosis, pube rufa; sinubus rotundato-	Leaves broad, cordate, 3—5 lobed, tomentose underneath; down rufous; the sinu-

obtusis; paniculis fertilibus oblongis; baccis parvulis.	ses rounded, obtuse; fertile panicles oblong; berries small.

Mich. 2. p. 230. Pursh, 1. p. 169. Nutt. 1. p. 143.
V. Labrusca, Walt. p. 242.

A vine climbing the loftiest trees in our forests, the old branches glabrous with the bark fibrous, the young tomentose. *Leaves* nearly round, sometimes entire, sometimes much dissected, always dentate. *Petioles* 2—5 inches long, tomentose. *Plant* polygamous and dioicous. The flowers similar on every plant. *Panicles* opposite the leaves, composed of small fascicles 3—6-flowered, a short villous leaf at the base of each fascicle. *Calyx* persistently entire, binding the base of the germ. *Corolla* 5-petalled, caducous, greenish, the petals adhering at the summit. *Nectary* a yellow, truncate gland, surrounding the germ. *Filaments* longer than the corolla, inserted with the petals between the calyx and the germ. *Anthers* erect. In the sterile flowers only the rudiments of a germ can be discovered. In the fertile the germ is above, turbinate, tapering to a short style. *Stigma* obtuse. *Berry* small, black, very acid and austere.

Grows in rich lands, and its size is supposed by many to be one of the best indications of soil which our forests furnish.

Flowers May.

5. Labrusca. Lin.

V. foliis lato-cordatis, sublobato-angulatis, subtus incano-tomentosis; racemis fertilibus parvis; baccis majoribus.	Leaves broad, cordate, somewhat lobed and angled, hoary and tomentose underneath; racemes fertile, small; berries large.

Sp. pl. 1. p. 1181. Mich. 2. p. 230. Pursh, 1. p. 169. Nutt. 1. p. 143.
V. Taurina, Walt. p. 242.

This is one of our largest species of vine, climbing over the loftiest trees of our forest, and covering them with large, thick and almost tomentose leaves. The fruit large and in small clusters of an austere and disagreeable flavour, ripening in August and September.

Grows on high spots in the deep river swamps, preferring always the richest soils.

ZANTHOXYLUM. Gen. Pl. 1512.

Masculi. *Calyx* 5-partitus. *Corolla* 0. *Stamina* 3, 5, 6, 8.

Foeminei. *Calyx* 5 partitus. *Corolla* 0, seu 5-petala. *Styli* 2, 3, 5. *Capsulæ* 2, 3, 5, monospermæ.

Sterile florets. *Calyx* 5-parted. *Corolla* 0. *Stamens* 3, 5, 6, 8.

Fertile florets. *Calyx* 5-parted. *Corolla* 0, or 5-petalled. *Styles* 2, 3, 5. *Capsules* 2, 3, 5, one-seeded.

1. Clava Herculis.

Z. aculeatum; foliis pinnatis, foliolis ovatis, acuminatis, repandis, basi æqualibus; petiolo communi aculeato; floribus terminalibus paniculatis.

Prickly; leaves pinnate, leaflets ovate, acuminate, repand, equal at base; common petiole prickly; flowers terminal paniculate.

Sp. pl. 4. p. 754. Nutt. 2. p. 236.
Z. Ramiflorum, Mich. 2. p. 235.
Z. Fraxineum, Pursh, 1. p. 209.

With this species I am entirely unacquainted. Does it not really belong to the West Indies? The "Hercules Club" of our Negroes and Countrymen is, as far as I have been able to ascertain, the Aralia Spinosa.

Grows in the woods of the West Indies and Carolina. Lin.

Flowers—

2. Tricarpum. Mich.

Z. foliis glaberrimis, pinnatis; foliolis petiolatis, falcato-lanceola-

Leaves very glabrous, pinnate; leaflets on petioles; falcate lan-

tis, crenato-serratis; petiolis inermibus; floribus corollatis; capsulis subternis. E.

ceolate, crenately serrate; petioles unarmed; flowers bearing petals; capsules generally by threes.

Mich. 2. p. 235 Pursh, 1. p. 210. Nutt. 2. p. 236.
Z. Fraxinifolium, Walt. p. 243.

A small tree 12—20 feet high and 6—10 inches in diameter, with numerous expanding branches, and the old bark thickly studded with prickles, very acute at the summit, dilated at base, ovoid, and sometimes an inch in their longest diameter. *Leaves* alternate unequally pinnate, leaflets (3—4 pair) obliquely lanceolate, generally equal at base, sparingly dotted, lucid on the upper surface, the terminal leaf not oblique. *Flowers* in terminal panicles composed of small umbels, the florets on pedicels about 5 lines long. *Calyx* very small, 5-parted. *Corolla* 5-petalled, petals oval, much longer than the calyx. *Stamens* variable, more frequently 5 than any other number, longer than the corolla. *Styles* in the fertile flowers 2 or 3, incurved gibbous. *Stigmas* simple. *Capsules* 1-seeded.

Grows in dry sandy soils, confined I believe to the sea-coast. The leaves are very aromatic and pungent. Prickly Ash.

Flowers June.

PANAX. Gen. Pl. 1604.

Masculi. Umbella. *Calyx* integer. *Corolla* 5-petala. *Stamina* 5.

Hermaphroditi. Umbella. *Calyx* 5-dentatus, superus. *Corolla* 5-petala. *Stamina* 5. *Styli* 2. *Bacca* disperma, infera.

Sterile florets in an umbel. *Calyx* entire. *Corolla* 5-petalled. *Stamens* 5.

Fertile florets in an *umbel.* *Calyx* 5-toothed, superior. *Corolla* 5-petalled. *Stamens* 5. *Styles* 2. *Berry* 2-seeded, inferior.

1. Quinquefolium.

P. radice fusiformi; foliis ternis, quinatis,

Root fusiform; leaves ternate, quinate, the

foliolis ovalibus, acuminatis serratis, petiolatis.	leaflets oval, acuminate, serrate, on petioles.

Sp. pl. 4. p. 1124. Walt. p. 253. Mich. 2. p. 256. Pursh, 1. p. 191.

Root perennial. *Stem* herbaceous, about a foot high, generally bearing 3 leaves at the summit, each leaf bearing 5 leaflets on short petioles; leaflets oblong oval or obovate, acuminate, coarsely serrate, membranaceous, glabrous. *Flowers* in a central umbel proceeding from the summit of the stem. Common *peduncle* about as long as the common petiole. *Involucrum* many leaved, leaves ovate with a subulate summit. *Styles* sometimes 3, the berry then 3-seeded.

Grows in rich soils in the mountains.

Flowers May. Pursh.

2. TRIFOLIUM.

P. radice subrotundo-tuberosa; foliis ternis, ternatis quinatisve, foliolis oblongo-lanceolatis, serratis, subsessilibus.	Root tuberous, nearly round; leaves by threes, ternate or quinate, leaflets oblong-lanceolate, serrate, nearly sessile.

Sp. pl. 4. p. 1124. Walt. p. 253. Mich. 2. p. 257. Pursh, 1. p. 191. Nutt. 1. p. 176.

A plant much smaller than the preceding. *Leaves* 3, each bearing 3 leaflets, leaflets small, lanceolate, acutely serrate, nearly sessile. *Peduncle* of the fertile umbel about as long as the leaf; of the sterile longer. Sterile florets very numerous; fertile florets few. *Styles* very frequently 3.

Grows in the upper districts of Carolina and Georgia.

Flowers in May.

IRESINE. GEN. PL. 4. p. 764.

Masculi. *Calyx* 2-phyllus. *Corolla* 5-petala. *Nectaria* 5 sive 7.	*Sterile florets.* *Calyx* 2-leaved. *Corolla* 5-petalled. *Nectaries* 5 or 7.
Foeminei. *Calyx* 2-phyllus. *Corolla* 5-	*Fertile florets.* *Calyx* 2-leaved. *Corolla*

petala. *Stigmata* 2, sessilia. *Capsula* seminibus tomentosis.

5-petalled. *Stigmas* 2, sessile. *Capsule* with tomentose seed.

1. Celosioides.

I. foliis punctato-scabris, inferioribus oblongis, acuminatis, superioribus ovato-lanceolatis; panicula ramosa conferta; caule sulcato.

Leaves dotted, scabrous, the lower oblong, acuminate, the upper ovate-lanceolate; panicle branching, crowded; stem furrowed.

Sp. pl. 4. p. 764. Mich. 2. p. 243. Nutt. 2. p. 236.

Root annual. *Stem* erect, 3—4 feet high, sulcate, glabrous, fistulous, thickened at the joints, branches opposite. *Leaves* opposite, lanceolate and ovate lanceolate, with a long tapering summit, irregularly serrulate, scabrous particularly on the upper surface, 2—3 inches long, 4—6 lines wide. *Flowers* in compound terminal panicles composed of small spikes. Sterile floret; calyx 3-leaved, persistent, leaves lanceolate, membranaceous, white; corolla 5-leaved, leaves twice as long as the calyx, membranaceous, white; stamens 5, much shorter than the corolla, attached to the base of the nectary; nectary composed of 6 or 7 globular, yellow, glandular bodies situated between the filaments. Fertile florets; calyx and corolla similar to those of the sterile floret, but with the corolla surrounded with long hair. *Germ* superior. *Styles* 2, short. *Capsule* ovate, 1-celled. *Seed* 1, shining, compressed.

Our plant appears to differ in some respects from the usual character of the genus.

Grows along the saline rushes (scirpi, &c.) along the shore.

Flowers September—October.

ACNIDA. Gen. Pl. 1521.

Masculi. Calyx 5-partitus. *Corolla* 0.

Foeminei. Calyx 3-partitus. *Corolla* 0. *Styli* 0. *Stigmata* 3—5, sessilia. *Capsula* monosperma.

Sterile florets. Calyx 5-parted. *Corolla* 0.

Fertile florets. Calyx 3-parted. *Corolla* 0. *Styles* 0. *Stigmas* 3—5, sessile. *Capsule* 1-seeded.

1. Cannabina. Lin.

A. foliis ovato-lanceolatis; capsulis lævibus acutangulis.	**Leaves ovate lanceolate; capsules smooth, acutely angled.**

Sp. pl. 4. p. 767. Mich. 2. p. 234. Pursh, 1. p. 208. Nutt. 2. p: 237.

Root fibrous, annual. *Stem* erect, 4—8 feet high, slightly angled, very glabrous, a little fistulous. *Leaves* alternate, ovate-lanceolate, acute at each end, ribbed, obscurely crenulate, 2—5 inches long, one to two and a half wide, on petioles 1—3 inches long, generally coloured. *Flowers* in large panicles axillary and terminal, the sterile more slender than the fertile. *Florets* all sessile, or on very slender pedicels. Sterile florets; calyx 5-parted (5-leaved?) segments lanceolate, acute, glabrous, the margins coloured (obscurely red;) corolla 0; stamens 5, as long as the calyx. Fertile florets; calyx 3-parted, persistent; corolla 0. *Germ* superior. *Styles* 0. *Stigmas* 3—5, reflexed, almost plumose. *Capsule* ovate, 3—5 angled, agreeing in number with the stigmas. *Angles* obtuse or acute, slightly rugose, not opening. *Seed* ovate, compressed, glabrous, tapering at base by which it is attached to the base of the capsule.

Grows in marshes and wet soils along the margins of our fresh water rivers, resembling very much an amaranth.

Flowers October—November.

2. Rusocarpa. Mich.

A. foliis ovali-lanceolatis; capsulis obtusangulis, rugosis.	**Leaves oval-lanceolate; capsules obtusely angled, rugose.**

Mich. 2. p. 234. Sp. pl. 4. p. 768. Pursh, 1. p. 208. Nutt. 2. p. 237.

Plant large, erect, 6—8 feet high. *Stem* thick, fistulous, angled. Mich.

With this species I am unacquainted. At least I have noticed but one species in our marshes, and as I felt some doubt where to refer it, I have described it with some minuteness.

Grows along the marshes of our rivers from Canada to Florida. Nutt.

Flowers—

HUMULUS. Gen. Pl. 1523.

Masculi. *Calyx* 5-phyllus. *Corolla* 0.	*Sterile florets.* *Calyx* 5-leaved. *Corolla* 0.
Foeminei. *Calyx* 1-	*Fertile florets.* *Ca-*

phyllus, oblique patens-integer. *Corolla* 0. *Styli* 2. *Semen* 1 intra calycem foliatum.	*lyx* 1-leaved, obliquely expanding, entire. *Corolla* 0. *Styles* 2. *Seed* 1 within the leafy calyx.

1. Lupulus. Lin.

Sp. pl. 4. p. 769. Mich. 2. p. 230. Pursh, 1. p. 199. Nutt. 2. p. 237.

Root perennial. Stem herbaceous, twining, scabrous. *Leaves* opposite, 3—5 lobed, veiny, scabrous, serrate, on petioles 2—4 inches long. Sterile flowers alternate and coarsely paniculate, axillary and terminal. Fertile florets verticillate and sessile, densely spiked, forming axillary and terminal panicles. *Seed* one, small, covered by the persistent calyx forming a strobilus in which the fragrant bitter so valuable if not indispenable in the manufacturing of beer resides.

Grows in the mountains of Carolina. Dr. Macbride.
Flowers June—August.

DIOECIA HEXANDRIA.

SMILAX. Gen. Pl. 1528.

Masculi. *Calyx* 6-phyllus. *Corolla* 0.	*Sterile florets.* *Calyx* 6-leaved. *Corolla* 0.
Foeminei. *Calyx* 6-phyllus. *Corolla* 0. *Styli* 3. *Bacca* 3-locularis. *Semina* 2.	*Fertile florets.* *Calyx* 6-leaved. *Corolla* 0. *Styles* 3. *Berry* 3-celled. *Seeds* 2.
* *Caule fruticoso.*	* *Stem shrubby.*

1. HASTATA. Willd.

S. caule angulato, aculeato; ramulis inermibus; foliis lanceolatis, acuminatis, basi auriculato-hastatis, trinervibus, margine ciliato-aculeatis.	**Stem angled, prickly; branches unarmed; leaves lanceolate, acuminate, auriculate and hastate at base, three nerved, the margin fringed with prickles.**

Sp. pl. 4. p. 782. Pursh, 1. p. 249. Nutt. 2. p. 238.
S. Bona nox, var. b. Lin. Walt. p. 245. Mich. 2. p. 237.

A twining plant climbing over small shrubs. *Stem* slightly angled, glabrous, when old armed with small prickles, the young branches distinctly angled, unarmed. *Leaves* alternate, on petioles nearly an inch long, hastate at base, the summit long, narrow lanceolate, 3-nerved with two smaller lateral nerves, glabrous, ciliate, sometimes entire. *Flowers* in small axillary umbels, the common peduncle about an inch long. *Berry* globose, black?

Grows in rich shaded soils.

Flowers June—July.

2. BONA NOX. Lin.

S. caule inermi, angulato; foliis cordato-ovatis, acutis, septem nervibus, ciliato-aculeatis.	**Stem unarmed, angled; leaves cordate-ovate, acute, 7-nerved, fringed with prickles.**

Sp. pl. 4. p. 781. Pursh, 1. p. 249. Nutt. 2. p. 238.
S. Variegata, Walt. p. 244.

A vine similar to the preceding, and like that the old wood becomes prickly. *Leaves* cordate, ovate, sometimes slightly hastate, glabrous, discoloured or variegated on the upper surface, armed with small prickles on the midrib and along the margin. *Berries* black?

Grows like most of the genus in damp rich soils along the margins of swamps.

Flowers June—July.

3. QUADRANGULARIS. Muhl.

S. caule aculeato, tetragono; foliis inermibus, ovatis, acutis, quinquenervibus.	Stem prickly, 4-angled; leaves unarmed, ovate, acute, 5-nerved.

Sp. pl. 4. p. 775. Pursh, 1. p. 249. Nutt. 2. p. 238.

Stem 4-angled, unarmed towards the summit, bearing a few scattered prickles near the base. *Leaves* ovate, slightly cordate, acute, 5-nerved, reticulate. Willd. *Berries* black. Pursh.

Grows in dry woods along the edges of ponds from Pennsylvania to Carolina. Pursh.

Flowers June—July.

4. WALTERI. Pursh.

S. aculeata; foliis cordato-ovatis, lævibus, 3-nervibus; baccis acuminatis.	Prickly; leaves cordate ovate, smooth, 3-nerved; berries acuminate.

Pursh, 1. p. 249.
S. China, Walt. p. 245.

Stem angled, spiny. *Leaves* cordate ovate, 3-nerved, smooth. *Berries* red, acuminate, 3-seeded. Walt.

Of this species of Walter I have no knowledge; I insert it to excite inquiry. Walter lived in a situation favourable to the examination of this genus, and appears to have paid it much attention.

Grows along the rivers in the low country of Virginia and Carolina. *Berries* red. Pursh.

Flowers July. Pursh.

5. SARSAPARILLA. Lin.

S. caule aculeato, subtetragono; foliis inermibus, ovato-lanceolatis, cuspidatis, subquinquenervibus, subtus glaucis; pedunculis elongatis.	Stem prickly, slightly 4-angled; leaves unarmed, ovate lanceolate, cuspidate, somewhat 5-nerved, glaucous underneath; peduncles long.

Sp. pl. 4. p. 776. Pursh, 1. p. 249. Nutt. 2. p. 238.
S. Glauca, Walt. p. 245. Mich. 2. p. 237.

Stem 4-angled, prickly, prickles scattered, subulate, incurved. *Leaves* two inches long and upwards, ovate-lanceolate, cuspidate, dilated and then suddenly contracted into a petiole, glaucescent underneath, with three distinct and two obscure nerves. Willd. *Peduncles* long. *Flowers* small. *Berries* black, 3-seeded.

Grows in rich soils; sometimes found in those that are dry.

Flowers June—July.

6. Ovata. Pursh.

S. subinermis; foliis inermibus, ovatis, acutis, cuspidatis, 3-nervibus, concoloribus; pedunculo-communi petiolis breviore.

Generally unarmed; leaves unarmed, ovate, acute, cuspidate, 3-nerved, uniformly coloured; common peducle shorter than the petiole.

Pursh, 1. p. 249. Nutt. 2. p. 238.

I refer to the S. Ovata of Pursh the sea-shore species of Smilax so remarkable for the fragrance of its flowers. *Stem* nearly terete, unarmed, branching, geniculate and covering the small shrubs over which it grows. *Leaves* perennial, ovate and oval, generally obtuse, always mucronate, 3-nerved, reticulate, on short petioles. *Flowers* in small umbels, common pedicel about half an inch long. *Corolla* greenish, very fragrant. *Berries* black?

Grows in dry sandy soils, common on the sea islands near the margin of the ocean.

Flowers June and July.

7. Lanceolata. Lin.

S. inermis; foliis lanceolatis ovatisque, acutis vel acuminatis, 3—5 nervibus, glaberrimis, perennantibus; umbellis multifloris, pedunculis brevibus. E.

Unarmed; leaves lanceolate and ovate, acute or acuminate, 3—5 nerved, very glabrous, perennial; umbels many flowered; peduncles short.

Sp. pl. 4. p. 783. Pursh, 1. p. 250. Nutt. 2. p. 238.
S. Pseudo China? Walt. p. 244.

A vine climbing over shrubs sometimes 15 or 20 feet high, terete, with its upper branches unarmed. *Leaves* somewhat membranaceous, entire, varying a little in their figure, acute or slightly acuminate, and very often a little oblique near the summit, paler underneath, with 3 distinct though not prominent and two obscure nerves, on a petiole about 3 lines long. *Flowers* numerous in small axillary umbels on a common peduncle rarely half an inch long. *Berries* red.

Grows like most of the genus in damp rich soils.

Flowers May—June.

8. LAURIFOLIA. Lin.

S. aculeata, ramis inermibus; foliis ovali-lanceolatis, paulo acuminatis, 3-nervibus, coriaceis, lucidis, perennantibus; umbellis brevissime pedunculatis.	Prickly, branches unarmed; leaves oval lanceolate, slightly acuminate, 3-nerved, coriaceous, lucid, perennial; umbels on short peduncles.

Sp. pl. 4. p. 779. Walt. p. 245. Mich. 2. p. 237. Pursh, 1. p. 250. Nutt. 2. p. 238.

Stem climbing to a considerable height, armed near the base, the branches terete, smooth. *Leaves* numerous, somewhat crowded, oblong, elliptic with a sudden and slight acumination at the point, rigid, coriaceous, lucid, perennial. *Flowers* small, in axillary umbels, common peduncle very short, not as long as the pedicels. (*Berries* spherical, black, one-seeded. Walt.)

Grows in swamps and wet soils.

Flowers July. The fruit matures late in the winter.

9. PUMILA. Walt.

S. inermis; foliis cordato-ovatis, integerrimis, sub 5-nervibus, subtus molliter pubescentibus; umbellis breviter pedunculatis, pedicellis brevissimis; baccis oblongis acutis; caule procumbente. E.	Unarmed; leaves cordate, ovate, entire, somewhat 5-nerved, softly pubescent underneath; umbels on short peduncles, pedicels very short; berries oblong acute; stem procumbent.

Walt. p. 244.

S. Pubera, Mich. 2. p. 238. Sp. pl. 4. p. 785. Pursh, 1. p. 250. Nutt. 2. p. 238.

Stem prostrate, rarely exceeding 3 or 4 feet long, pubescent, sparingly branched, unarmed. *Leaves* perennial, alternate, cordate ovate, obtuse, mucronate, scabrous on the upper surface, almost tomentose and hoary underneath, 5-nerved the exterior obscure, on petioles 1—3 inches long. *Flowers* in small axillary umbels, the common peduncle 5—10 lines long, the partial 1—2 lines. *Calyx* of both florets 6-leaved, 3 exterior, oblong, greenish yellow. *Corolla* 0. *Stamens* shorter than the corolla, rugose, between the interior petals of the fertile flower are often found the rudiments of 3 stamens. *Germ* superior. *Style* short thick. *Berry* oval, white, 1-seeded?

Grows in rich shaded soils.

Flowers September—October. Matures its fruit in March.

10. PSEUDO CHINA. Lin.

S. inermis; foliis inermibus, caulinis cordatis, rameis ovato-oblongis, 5-nervibus; pedunculis longissimis.

Unarmed; leaves unarmed, those of the stem cordate, of the branches ovate oblong, 5-nerved; peduncles very long.

Sp. pl. 4. p. 785. Pursh, 2. p. 250. Nutt. 2. p. 238.

S. Sarsaparilla, Walt. p. 245.

Roots tuberous, creeping, nodose. *Stem* climbing over small shrubs. *Leaves* as in most of the genus semiperennial, many of them adhering to the stem during the winter. The lower leaves distinctly cordate, nerved, the young ones ovate. *Berries* black?

Most of the species of this genus have large tuberous roots, but in this they are very conspicuous. This species is, I believe, the one generally preferred in medicine as an alterative, and forms the basis of many "diet-drinks" among the "unlicensed faculty." From these roots, with Indian corn, (maize) sassafras and molasses, the negroes manufacture a very pleasant beer.

Grows in almost all soils, frequently found in dry sandy situations.

Flowers June—July?

11. ROTUNDIFOLIA. Lin.

S. caule aculeato, teretiusculo; foliis subrotundo-ovatis, acumina-

Stem prickly, somewhat terete; leaves ovate, nearly round,

tis, lævissime cordatis, quinquenervibus.	acuminate, slightly cordate, 5-nerved.

Sp. pl. 4. p. 779. Walt. p. 245. Mich. 2. p. 237. Pursh, 1. p. 250. Nutt. 2. p. 238.

Stem terete, sometimes slightly angled, flexuous, armed with small acute prickles. *Leaves* cordate, nearly round, mucronate, entire, 5—7 nerved, 3 more distinct than the others, paler or glaucescent underneath. (*Berries* spherical. Mich.)

Grows in rich shaded soils.

Flowers June. Pursh.

12. CADUCA. Lin.

S. aculeata; foliis ovatis, mucronatis, membranaceis, 5 nervibus; pedunculo communi vix petiolis longiore.	Prickly; leaves ovate, mucronate, membranaceous, 5-nerved; common peduncle scarcely longer than the petioles.

Sp. pl. 4. p. 780. Pursh, 1. p. 250. Nutt. 2. p. 238.

Stem flexuous, sometimes angled, very thinly armed with prickles. *Leaves* annual, ovate, entire, mucronate, with 3 nerves as usual more distinct than the rest, when young often acuminate, very thin, on petioles about half an inch long. *Flowers* in axillary umbels, the pedicel as long as the common peduncle.

Grows in dry fields. Pursh. Very common around ponds.

Flowers June—July.

13. TAMNOIDES. Lin.

S. caule aculeato, tereti; foliis ovato oblongis, acutis, sub-panduræformibus, obsolete cordatis, quinquenervibus, pedunculo communi petiolis longiore.	Stem prickly, terete; leaves ovate oblong, acute, slightly panduriform, obsoletely cordate, 5-nerved; common peduncle longer than the petiole.

Sp. pl. 4. p. 780. Nutt. 2. p. 238.

S. Panduratus, Pursh, 1. p. 251.

Stem twining, terete, prickly. *Leaves* on petioles 6—8 lines long, panduriform, acute, sometimes almost hastate, with the lobes round, lucid, somewhat rigid, with 3 distinct and 2 or 4 obscure nerves. *Flowers* in axillary umbels, common peduncle about an inch long, twice as long as the pedicels. *Berry* spherical, black.

I feel some hesitation in referring to this species the S. Tamnifolia of Michaux, (2. p. 238.) The plant I am describing is certainly not herbaceous.

Grows often in dry soils.

Flowers—

** *Caule herbaceo.*

** *Stem herbaceous.*

14. PEDUNCULARIS. Muhl.

S. caule tereti, scandente; foliis subrotundo-ovatis, cordatis, acuminatis, 9-nervibus; umbellis longissime pedunculatis.

Stem terete, climbing; leaves ovate, nearly round, cordate, acuminate, 9-nerved; umbels on very long peduncles.

Sp. pl. 4. p. 786. Pursh, 1. p. 251. Nutt. 2. p. 238.
S. Pulverulenta, Mich. 2. p. 238.
S. Inermis? Walt. p. 244.

Root perennial. *Stem* herbaceous, 3—5 feet high, terete, unarmed, glabrous, bearing tendrils. *Leaves* cordate, ovate, slightly acuminate, nerved, (3 more prominent than the rest) somewhat reticulate, on petioles 2—3 inches long. *Flowers* in umbels on a common peduncle 4—6 inches long. *Pedicels* 5—8 lines long. *Calyx* 6-leaved, leaves linear lanceolate. *Stamens* nearly as long as the calyx. *Anthers* terminal, erect. (Fertile florets producing 6 unfertile filaments. *Stigmas* 3, each 3-lobed. *Germ* 3-celled, cells 2-seeded. Nutt.) *Berries* blue. Walt.

Grows in rich soils; not common in the low country of Carolina.

Flowers May—July. Pursh.

15. HERBACEA. Lin.

S. caule subangulato, erecto; foliis ovalibus cordato-ovatisque, acuminatis, nervosis, subtus pubescentibus,

Stem slightly angled, erect; leaves oval and cordate-ovate, acuminate, nerved, pubescent underneath, the lower

inferioribus alternis, superioribus verticillatim congestis; pedunculis prælongis, compressis. E.	alternate, the upper verticillate, and crowded; peduncles very long, compressed.

Sp. pl. 4. p. 782. Walt. p. 243. Mich. 2. p. 238. Pursh, 1. p. 251. Nutt. 2. p. 228.

Root perennial. *Stem* herbaceous, 2 to 3 feet high, erect, slightly angled, glabrous, bearing sometimes one or two small branches. *Leaves* when young oval or ovate, when old slightly cordate, acuminate, 5 to 7 nerved, very pubescent on the under surface, particularly along the nerves, the lower alternate, the upper somewhat verticillate at the summit of the stem, 4 to 5 inches long, 3 to 4 wide, on angled petioles 2 to 4 inches long. *Flowers* on the lower part of the stem. *Umbels* on very long compressed peduncles. *Stigmas* 3. *Germ* 3-celled, each bearing the rudiments of 2 seeds, but maturing only one, sometimes neither. *Berry* spherical, black, 2 to 3 seeded.

Grows in fertile soils.

Flowers May—July.

This genus is very extensive in the Southern States and merits a more careful examination than it has yet received. While waiting for that day which so often eludes our expectations, when I should be able to collect and examine them at leisure in a living state, I have permitted some opportunities which I really enjoyed to escape, I feel now that my knowledge of the genus is incomplete, perhaps inaccurate. The two last species will probably constitute a distinct genus.

DIOSCOREA. GEN. PL. 1530.

Masculi. *Calyx* 6-partitus. *Corolla* 0.	*Sterile floret*. *Calyx* 6-parted. *Corolla* 0.
Foeminei. *Calyx* 6-partitus. *Corolla* 0. *Styli* 3. *Capsula* 3-locularis, compressa. *Semina* 2, membranacea.	*Fertile florets*. *Calyx* 6-parted. *Corolla* 0. *Styles* 3. *Capsules* 3-celled, compressed. *Seeds* 2, membranaceous.

1. Villosa. Lin.

D. foliis alternis, oppositis verticillatisque, cordatis, acuminatis, subtus pubescentibus, 9 nervibus, nervis lateralibus simplicibus.

Leaves alternate, opposite and verticillate, cordate, acuminate, pubescent underneath, 9-nerved, the lateral nerves simple.

Sp. pl. 4. p. 796. Pursh, 1. p. 251. Nutt. 2. p. 238.
D. Paniculata, Mich. 2. p. 239.
D. Quinata, Walt. p. 246.

Root perennial. *Stem* herbaceous, climbing over shrubs, sometimes 12 to 15 feet high, terete, glabrous? Lower *leaves* verticillate, the upper generally alternate, cordate, acuminate, 9-nerved, as far as it has occurred to me generally glabrous. Sterile florets in slender axillary panicles, very small, in small clusters on the branches of the panicle. Fertile florets in simple racemes; germ inferior; styles three; stigmas 3-cleft; capsule 3-celled, 3-winged, 2-seeded.

Grows in dry sandy moderately fertile soils.

Flowers May to July.

2. Quaternata. Walt.

D. foliis verticillatis, quaternis alternisve, cordatis, acuminatis, utrinque glabris, 7-nervibus, nervis lateralibus bifidis.

Leaves verticillate, by fours and alternate, cordate, acuminate, glabrous on both surfaces, 7-nerved, the lateral nerves divided.

Walt. p. 246. Pursh, 1. p. 251. Nutt. 2. p. 238.

A vine very similar to the preceding. Describing from the specimen now before me, I should say that the leaves are rather smaller with a more tapering and acuminate summit, 7-nerved with the exterior pair divided at some distance from the base, and the sterile florets more numerous, more thickly clustered, and the calyx rather longer.

Grows in dry fertile soils.

Flowers May to July.

PRINOS. GEN. PL. 594.

Masculi. *Calyx* 4—8 fidus. *Corolla* 4—8 partita. *Stamina* 4—8. Rudimentum pistilli.

Foeminei. *Calyx* et *Corolla* maris. *Stigma* sessile, 4—8 fidum. *Bacca* 4—8 sperma.

Sterile florets. *Calyx* 4—8 cleft. *Corolla* 4—8 parted. *Stamens* 4—8. A rudiment of a pistil.

Fertile florets. *Calyx* and *Corolla* as in the sterile. *Stigma* sessile, 4—8 cleft. *Berry* 4—8 seeded.

1. AMBIGUUS. Mich.

P. foliis deciduis, ovali-lanceolatis, utrinque acuminatis, lævissime crenato serrulatis, subtus pubescentibus; floribus 4—5 fidis, masculis aggregatis, foemineis axillaribus subsolitariis. E.

Leaves deciduous, oval-lanceolate, acuminate at each end, slightly and crenately serrulate, pubescent underneath; flowers 4—5 cleft, the sterile aggregate, the fertile axillary, generally solitary.

Mich. 2. p. 236. Pursh, 1. p. 220.
Cassine Caroliniana, Walt. p. 242.

A small shrub rarely exceeding 3—4 feet in height, with terete, somewhat virgate branches. *Leaves* on very short petioles, very pubescent underneath. Sterile florets in clusters of 20—30, axillary, but appearing to spring from the summit of the last year's buds, each pedicel 1-flowered. *Teeth* of the calyx, segments of the corolla and stamens sometimes 5, but much more frequently 4, hence it was arranged by Dr. Macbride, perhaps correctly, as an Ilex. Fertile florets sometimes 3—4 in an axil. *Corolla* of the fertile floret withering slowly. *Stigma* obscurely 4 or 5 furrowed. *Seeds* corresponding in number with the divisions of the stigma. *Berry* red.

Sufficiently distinct from P. Verticillatus.

Grows in St. John's, Berkeley. Dr. Macbride. St. Mary's, Georgia. Dr. Baldwin.

Flowers April—May.

2. VERTICILLATUS. Lin.

P. foliis deciduis, ovalibus, acuminatis, serratis, subtus pubescentibus; floribus 6-fidis, masculis axillaribus umbelluliformibus, foemineis aggregatis.	Leaves deciduous, oval, acuminate, serrate, pubescent underneath; flowers 6-cleft, the sterile axillary, umbellate, the fertile clustered.

Sp. pl. 2. p. 225. Pursh, 1. p. 220. Nutt. 1. p. 213.
P. Gronovii, Mich. 2. p. 236.

A large shrub sometimes becoming a small tree. *Leaves* on petioles about five lines long, oval, acuminate, finely serrate, pubescent, somewhat hairy underneath. *Flowers* hexandrous. The sterile distinctly axillary in small umbellate clusters, the fertile few, aggregated, when in fruit commonly solitary. *Berries* red.

Nearly allied certainly to the preceding species, but differs somewhat in the shape and serratures of the leaves, in its hexandrous flowers, and the umbellate structure of its sterile florets.

Grows in light fertile soils.

Flowers April—May.

3. INTEGRIFOLIA.

P. foliis deciduis, ovalibus, integerrimis, mucronatis, petiolatis, utrinque glabris; floribus foemineis solitariis, longe pedunculatis.—Nutt.	Leaves deciduous, oval, entire, mucronate, on petioles, glabrous on each surface; fertile florets solitary, on long peduncles.

P. Ambiguus, Nutt. 1. p. 213.

A small tree with a smooth whitish bark. *Leaves* oval, always entire, about one and a half inches long and one inch wide, on petioles near half an inch long. *Peduncles* of the fruit often two inches in length. Nutt.

This species I have inserted from Mr. Nuttall, who considers it as the real P. Ambiguus of Mich. The one I have described under that name is, however, certainly the Cassine Caroliniana of Walter, and therefore probably the plant of Michaux, agreeing also in the "partitione quaternaria."

The habitat is not mentioned, but it probably belongs to the Southern States.

4. Lanceolatus. Pursh.

P. foliis deciduis, lanceolatis, tenuissime et remote serrulatis, utrinque acutis, utrinque glabris, floribus foemineis sparsis, subgeminis, pedunculatis, 6-fidis, masculis aggregatis, 3-andris.

Leaves deciduous, lanceolate, finely and remotely serrulate, acute at each end, glabrous on each surface, fertile florets scattered, generally in pairs, on peduncles, 6-cleft, sterile aggregate, triandrous.

Pursh, 1. p. 220. Nutt. 1. p. 213.

Berries small, scarlet. Pursh.

Grows in the lower districts of Carolina and Georgia. Pursh.

Flowers June.

This species has escaped my notice. But I believe there are several species of this genus with deciduous leaves yet to be described. I saw in the Herbarium of Mr. Lyon many years ago, one collected near Augusta, and one or two collected near Tuckabatchie on the Talapoosa river which appeared to be unknown. I have, however, no memorandums of them.

5. Glaber. Lin.

P. foliis sempervirentibus, cuneato-lanceolatis, coriaceis, glabris, nitidis, superne parce serratis; pedicellis foemineis solitariis, masculis 3—6 floris.

Leaves perennial, cuneate-lanceolate, coriaceous, glabrous, shining, sparingly serrate near the summit; fertile pedicels solitary, sterile 3—6 flowered.

Sp. pl. 2. p. 226. Walt. p. 247. Mich. 2. p. 236. Pursh, 1. p. 220. Nutt. 1. p. 213.

A small shrub, the fertile plants rarely exceeding 3 feet in height, branching, bushy, the sterile 3—5 feet high, virgate, the young branches slightly pubescent. *Leaves* alternate, cuneate-lanceolate, perennial, very glabrous excepting along the midrib, on petioles 5—6 lines long. *Flowers* axillary, the peduncles of the sterile flowers sometimes clustered, each 3—6 flowered. Sterile flowers generally 6-parted and hexandrous, the stamens inserted at the base of the rotate corolla, between the segments, and bearing the rudiments of a germ. Fertile florets often 7—8 parted, bearing abortive stamens. *Style* short, thick. *Stigma* somewhat 3-lobed. *Berry* black, 6, 7, 8 seeded.

Grows in damp poor soils.

Flowers April—May.

6. CORIACEUS. Pursh.

P. foliis perennantibus, lato ovalibus acutis, apice serratis, superne nitidis, subtus atomiferis; floribus foemineis solitariis, plerumque octo-partitis, masculis subaggregatis 8-andris.

Leaves perennial, broad oval, acute, serrate near the summit, lucid on the upper surface, minutely dotted underneath; fertile florets solitary, generally 8-parted; sterile aggregate octandrous.

Pursh, 1. p. 221.

P. Atomarius, Nutt. 1. p. 213.

A shrub generally 5—6 feet high with virgate branches, (viscid when young, Nutt.) *Leaves* perennial, somewhat oval but very wide for their length, coriaceous, acutely serrate near the summit, sprinkled frequently on the under surface with minute dark coloured atoms. *Flowers* very commonly 8-parted and 8-androus. *Berry* 6, 7, 8 seeded.

Grows in rich high lands; near the margin of swamps, Chatham County, Georgia.

Flowers May.

GLEDITSCHIA. GEN. PL. 1596.

Masculi. *Calyx* 3—5—8 partitus. *Stamina* 6—8.

Foeminei. *Calyx* 5—10 partitus. *Stylus* 1. *Legumen.*

Hermaphroditi. *Calyx* 6—8 partitus. *Sta-*

Sterile florets. *Calyx* 3—5—8 parted. *Stamens* 6—8.

Fertile florets. *Calyx* 5—10 parted. *Style* 1. *Legumen.*

Hermaphrodite. *Calyx* 6—8 parted. *Sta-*

mina 5—8. *Stylus* 1. *Legumen* compressum, falcatum.	*mens* 5—8. *Style* 1. *Legumen* compressed, falcate.

1. Monosperma. Walt.

G. ramis subspinosis; foliolis ovato-oblongis, acutis; leguminibus ovalibus, mucronatis, submonospermis.	Branches somewhat spiny; leaflets ovate, oblong, acute; legumes oval, mucronate, generally 1-seeded.

Walt. p. 254. Sp. pl. 4. p. 1097. Mich. 2. p. 257. Pursh, 1. p. 221. Nutt. 2. p. 239.

A tree 40—60 feet high, 1—2 in diameter, armed on the trunk and branches with spinous processes, (aculei properly which adhere only to the bark) sometimes simple but very commonly bearing two lateral spines near the summit. *Leaves* equally and compoundly pinnate. *Leaflets* very numerous, small, oval, slightly crenulate, glabrous. *Flowers* small, in small axillary racemes. *Calyx* 6—8 leaved, 3—5 leaves interior, all oval lanceolate, pale green. *Legumen* or pod somewhat oval oblique, compressed, mucronate, 1-seeded, not bearing as in the next species a saccharine pulp.

Grows in the river swamps in the middle districts of Carolina and Georgia. Is not found in the immediate vicinity of the ocean.

Flowers—

2. Triacanthos.

G. ramis spinosis, spinis crassis, triplicibus compositisque; foliolis ovali oblongis; leguminibus polyspermis.	Branches spiny, spines thick, triple and compound; leaflets oval and oblong; legumes many seeded.

Sp. pl. 4. p. 1097. Walt. p. 254. Mich. 2. p. 257. Pursh, 1. p. 221. Nutt. 2. p. 239.

A large tree 50—60 feet in height, and 2—3 feet in diameter, armed on the stem and branches with spines which grow generally in clusters and very commonly bear 2 or more lateral spines. *Leaves* equally and abruptly pinnate, leaflets small, oval lanceolate, glabrous, slightly crenulate near the summit. *Flowers* in small axillary racemes, the sterile florets clustered. *Legumen* falcate, 12—14 inches long, mucronate, many seeded, the intervals between the cells of the seed filled with a saccharine pulp.

This tree is thinly scattered through our forests. On the sea islands I believe it occurs more frequently than on the adjacent main land. Its timber is considered durable and would be valued, but the tree is itself so scarce that it does not enter into the arrangements of our farming or manufacturing economy.

Grows in rich light soils.

Flowers May?

DIOECIA OCTANDRIA.

POPULUS. GEN. PL. 1531.

Masculi. Amentum cylindraceum. *Calyx* squama lacera. *Corolla* turbinata, obliqua, integra.

Foeminei. Amentum cylindraceum. *Calyx* et *Corolla* maris. *Stigma* 4—6 fidum. *Capsula* 2-locularis. *Semina* plurima, pilis flexuosis obvallata.

Sterile florets. Ament cylindrical. *Calyx* a lacerate scale. *Corolla* turbinate, oblique, entire.

Fertile Florets. Ament cylindrical. *Calyx* and *Corolla* as in the sterile. *Stigma* 4—6 cleft. *Capsule* 2-celled. *Seeds* numerous, surrounded with flexuous hairs.

1. GRANDIDENTATA. Mich.

P. foliis subrotundo-ovatis, acutis, inæqualiter sinuato-dentatis, glabris, junioribus vil-

Leaves ovate, nearly round, acute, unequally and sinuately toothed, glabrous, the losis; petiolis superne compressis.

younger villous; petioles compressed near their summit.

Mich. 2. p. 243. Pursh, 2. p. 619. Nutt. 2. p. 239.
Mich. arb. for. 3. p. 287.

A tree 40—50 feet high, with smooth bark and branches thinly dispersed. *Leaves* alternate, nearly circular, with large irregular teeth, and prominent veins, when young tomentose, becoming glabrous with age, on petioles 2—4 inches long. *Flowers* in small axillary cylindrical aments, shooting out early in the spring with the first buds, very small and inconspicuous. *Capsules* small, containing many minute seeds surrounded by long cottonlike hairs which causing them to float readily on the air, render them easy of dispersion, and have given to several species in different parts of the United States the common name of Cotton-trees.

Grows in the mountainous districts of Carolina and Georgia.

Flowers March.

2. ANGULATA. Aiton.

P. foliis ovato-deltoideis, acuminatis, obtuse uncinato-dentatis, glabris, junioribus amplissimis cordatis; ramis alato-angulosis.

Leaves ovate-deltoid, acuminate, obtusely and uncinately toothed, glabrous, when young very large and cordate; branches angled, slightly winged.

Sp. pl. 4. p. 805. Pursh, 2. p. 619. Nutt. 2. p. 239.
P. Nigra? Walt. p. 248.
P. Angulosa, Mich. 2. p. 243.
Mich. arb. for. 3. p. 302.

A large tree, growing 50—80 feet in height and 2—3 in diameter; the young branches are all winged and angled by the decurrent petioles or by the junction of different branches, and these vestiges are not effaced for several years. *Leaves* ovate-deltoid, acuminate, serrate, glabrous, sometimes slightly cordate, on the young shoots 5—7 inches long, 4—5 wide, on the old trees smaller, on compressed petioles 2—4 inches long. *Flowers* very small. *Seed* not as conspicuously villous and white as in some other species.

This is, I believe, the only species of this genus which is found along the sea-coast of Carolina and Georgia. Its leaves are easily agitated by the wind. Its wood is light, brittle, and not durable.

Grows along the margin of rivers.

Flowers March.

3. HETEROPHYLLA. Lin.

P. foliis subrotundo-ovatis, obtusis, subauriculatis, serratis, junioribus tomentosis.	Leaves ovate, nearly round, obtuse, slightly auriculate, serrate, when young tomentose.

Sp. pl. 4. p. 806. Walt. p. 248. Mich. 2. p. 244. Pursh, 2. p. 619. Nutt. 2. p. 239.

P. Argentea, Mich. arb. for. 3. p. 290.

A large tree growing sometimes 60—80 feet in height and 2—3 in diameter. *Branches* not angled as in the preceding species. *Leaves* deltoid ovate, serrate at base, slightly cordate, with lobes or auricles that often conceal the insertion of the petiole, when young tomentose. (Sterile florets polyandrous; flowers of the glabrous fertile ament remote, pedicelled. Mich.)

Grows along the margins of rivers. Common in the middle and upper districts of Carolina and Georgia.

Flowers March.

DIOSPYROS. GEN. PL. 1598.

Masculi. *Calyx* 4—6 fidus. *Corolla* urceolata 4—6 fida. *Stamina* 8—16, filamentis plerumque biantheriferis.	*Sterile florets.* *Calyx* 4—6 cleft. *Corolla* urceolate 4—6 cleft. *Stamens* 8—16, the filaments frequently bearing 2 anthere.
Foeminei. *Calyx* et *Corolla* maris. *Stigmata* 4—5. *Bacca* 8—12 sperma.	*Fertile florets.* *Calyx* and *Corolla* as in the sterile. *Stigmas* 4—5. *Berry* 8—12 seeded.

1. VIRGINIANA. Lin.

D. foliis ovatis ovalibusque, acuminatis, reticulato-venosis, sub glabris, petiolis pubes-	Leaves ovate and oval, acuminate, reticulately veined, somewhat glabrous, petioles

centibus; gemmis glabris.

pubescent; buds glabrous.

Sp. pl. 4. p. 1107. Walt. p. 253. Mich. 2. p. 258. Pursh, 1. p. 265. Nutt. 2. p. 40.
Mich. arb. for. 2. p. 195.

A small tree rarely exceeding 30—40 feet in height, or 12—16 inches in diameter, with scattered irregular branches. *Leaves* alternate, on short petioles, sometimes ovate, more frequently oval lanceolate, acuminate, paler underneath and slightly pubescent along the margin. *Flowers* solitary, axillary, on short peduncles. *Corolla* greenish yellow. *Calyx* of the fertile floret persistent. *Berry* red, containing 8—12 compressed, hard seeds immersed in a pulp which when fully ripe is well flavoured, and might by cultivation be added to the fruits of the table.

Var. Pubescens.

Leaves acute, pubescent underneath. *Petioles* long. *Fruit* bearing few seeds. Pursh.

The leaves of our common persimmon are generally pubescent along the margins, but I have never seen them as much so as represented in the figure of Michaux. I have noticed, however, that this tree in Maryland and Virginia bears fruit much more abundantly than it does along the sea-coast of Carolina and Georgia.

Grows in light rich soils.

Flowers May.

DIOECIA ENNEANDRIA.

HYDROCHARIS. Gen. Pl. 1535. Limnobium. Rich.

Masculi. *Spatha* 2? phylla. *Calyx* 3-phyllus. *Corolla* 3-petala. *Stamina* 8—12, basi coalita.

Sterile florets.—— *Spathe* 2? leaved. *Calyx* 3-leaved. *Corolla* 3-petalled. *Stamens* 8—12, united at base.

Foeminei. *Spatha* monophylla, uniflora. *Calyx* 3-phyllus. *Corolla* 3-petala. *Glandulæ* 6, inter petala. *Germen* inferum. *Styli* 6, bifidi. *Capsula* 6-locularis, polysperma.

Fertile florets.——*Spathe* 1-leaved, 1-flowered. *Calyx* 3-leaved. *Corolla* 3-petalled, with 6 glands between the petals. *Germ* inferior. *Styles* 6, 2-cleft. *Capsule* 6-celled, many seeded.

1. Spongiosa. Bosc.

H. monoica; foliis natantibus, rotundato-cordatis, subtus reticulatis, basi vesiculosis.

Monoecious; leaves floating, round, cordate, reticulate underneath, with vesicles at base.

Bosc. Annales du Museum, 9. p. 396.
H. Cordifolia, Nutt. 2. p. 241.

Since I have become acquainted with the different views which have been taken of this plant, I have had no opportunity of examining it in a living state. I shall, therefore, merely insert the notes I took of it many years ago.

Root perennial, sarmentose. *Leaves* from the root, floating, orbicular, cordate, glabrous, 1—2 inches in diameter, with prominent purple veins underneath, and some inflated vesicles near the summit of the stem. *Petioles* 2—4 inches long. *Flowers* axillary, monoecious. Sterile florets:—*Spathe* — leaved, — flowered; leaves membranaceous, hyaline, nerved. *Calyx* 3-leaved, leaves oval, membranaceous, without nerves, green. *Corolla* white, 3-petalled, petals as long as the calyx, but narrower, peduncle longer than the sheath, hyaline; filaments generally 12, united at base; the interior ones abortive; anthers attached to the sides of the filaments. Fertile florets:—*Spathe* one-leaved, one-flowered, peduncle of the flower very short, of the fruit long deflected. *Calyx* and *corolla* like those of the sterile floret. *Glands* 6 very small, setaceous, inserted by pairs between the petals. *Germ* inferior, ovate, truncate. *Styles* 6, as long as the corolla, deeply 2-cleft, furrowed on the interior surface. *Stigmas* simple, spotted. *Capsule* striate, 6-celled. *Seeds* numerous, striate, (hirsute. Nuttall.)

Grows in stagnant water.

Flowers July—September.

DIOECIA POLYANDRIA.

MENISPERMUM. Gen. Pl. 1544.

Masculi. *Calyx* 6—12 phyllus, duplici triplicive serie. *Corolla* 6—8 petala, duplici serie. *Stamina* 12—24. *Antheræ* 4-lobæ, terminales.

Foeminei. *Calyx* et *Corolla* maris. *Germina* 2—4, *stylis* apice subbifidis. *Drupæ* baccatæ, subrotundo reniformes, 1-spermæ.

Sterile floret. *Calyx* 6—12 leaved, in a double or triple series. *Corolla* 6—8 petalled, in a double series. *Stamens* 12—24. *Anthers* terminal, 4-lobed.

Fertile florets. *Calyx* and *Corolla* as in the sterile. *Germs* 2—4 with the *styles* slightly 2-cleft at the summit. *Drupes* resembling berries, reniform nearly round, 1-seeded.

1. Canadense. Lin.

M. foliis peltatis, subglabris, subcordatis, subrotundo - angulatis, angulis obtusiusculis, terminali abrupte aristato, mucronato; racemis solitariis compositis; petalis 8.

Leaves peltate, somewhat glabrous, slightly cordate, nearly round, angled, the angles obtuse, the terminal abruptly awned, mucronate; racemes solitary compound; petals 8.

De Candolle, reg. veg. 1. p. 540.

Sp. pl. 4. p. 824. Mich. 2. p. 241. Pursh, 2. p. 370. Nutt. 2. p. 244.

Stem climbing over small shrubs, glabrous, when young pubescent. *Petioles* 1—3 inches long, young leaves pubescent, when old glabrous, all peltate, with the petiole inserted near the margin. Sterile florets racemose, sometimes paniculate, solitary, often shorter than the petiole, shooting out a little above the axil. *Calyx* 8-leaved. *Corolla* yellow, 8-petalled, smaller than the calyx. *Stamens* 18—20. *Anthers* obtusely 4-angled, 4-furrowed. Fertile florets few, corymbose. De Cand.

Grows from Canada to Carolina. Mich. I have never seen this plant in the low country of Carolina. It probably inhabits our mountains.

Flowers in July. Pursh.

2. SMILACINUM.

M. foliis peltatis subglabris, cordato-subrotundis, obtuse angulatis, subtus glaucis, racemis subsimplicibus, petalis 4.

Leaves peltate, somewhat glabrous, cordate, nearly round, obtusely angled, glaucous underneath; racemes generally simple; petals 4.

De Cand. reg. veg. 1. p. 541.

Cissampelos Smilacina, Willd. Sp. pl. 4. p. 863.

This species only differs from the preceding by its pale glaucous leaves and its petals, which are 4 and not 8. De Cand.

Grows in Carolina in rich moderately dry soils.

Flowers June to August.

DIOECIA MONADELPHIA.

JUNIPERUS. GEN. PL. 1552.

Masculi. *Amentum* ovatum. *Calyx* squa-

Sterile florets. *Ament* ovate. *Calyx* a

ma. ***Corolla*** **0.** ***Stamina*** **3.**

Foeminei. ***Calyx*** **3-partitus.** ***Petala*** **3?** ***Styli*** **3.** ***Bacca*** **1—3 sperma, tuberculata.**

scale. ***Corolla*** **0.** ***Stamens*** **3.**

Fertile florets. ***Calyx*** **3-parted.** ***Petals*** **3.** ***Styles*** **3.** ***Berry*** **1—3 seeded, tuberculate.**

1. VIRGINIANA. Lin.

J. foliis ternis, basi adnatis, junioribus patulis, senioribus appressis, imbricatis.

Leaves ternate, united at base, when young expanded, when old appressed, imbricate.

Sp. pl. 4. p. 853. Walt. p. 243. Mich. 2. p. 245. Pursh, 2. p. 647. Nutt. 2. p. 245.
Mich. arb. for. 3. p. 42.

A tree of irregular growth; along the margin of salt-water streams it is generally covered with horizontal branches; in thick woods it grows like the fir, tall and slender; in old fields it extends like the live oak, and in such situations sometimes attains the height of 40 or 50 feet and a diameter of 2—3. *Leaves* very small, resembling scales, verticillate by threes, on young shoots expanding and very acute, on old branches closely imbricate. *Flowers* axillary. *Ament* of sterile florets very small. *Berry* dry, 1—2 seeded, roughened with the persistent calyx. (*Seeds* nuciform. Nutt.)

The wood, leaves and berries of this tree have all an aromatic flavour. The wood is light, close grained, reddish purple, and perhaps more durable than any other timber in our country. Those which grow along the sea-coast with their roots partially immersed in salt-water, though smaller in their dimensions, are much more durable than those which inhabit the forests. Often when surrounded and finally destroyed by the encroachments of the salt-water, their bodies remain in the marshes for an indefinite period, the roosting places of vultures and of sea-birds, become incrusted with pulverulent lichens and seem to moulder away like rock rather than decay like a vegetable product.

The timber of the Red Cedar is extensively used by ship carpenters and boat builders, by cabinet makers and turners, and is in many articles of domestic use. The aroma of the wood is so disagreeable to insects that in chests newly made woollens may be preserved for one or two years without receiving any injury from moths.

Grows in almost all soils; very common along the sea-coast of Carolina and Georgia; more rare in the interior country. In the state of Alabama, however, at a distance from the ocean, it sometimes is found covering almost exclusively many acres of land.

Flowers April.

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TO THE

SECOND VOLUME.

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OF THE

GENERA AND SPECIES

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☞ *The* Roman *characters indicate the Genera and Species which are retained; the* Italic *are used for synonymes.*

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Mitchelli 224
parviflora 224
sativa 223
VISCUM 677
album 677
flavescens 677
verticillatum 677
VITIS 687
aestivalis 688
cordifolia 688
labrusca 689
labrusca 689
riparia 688
rotundifolia 687
taurina 689
vulpina 687

X

XANTHIUM 478
Americanum 479
spinosum 479
strumarium 479

Z

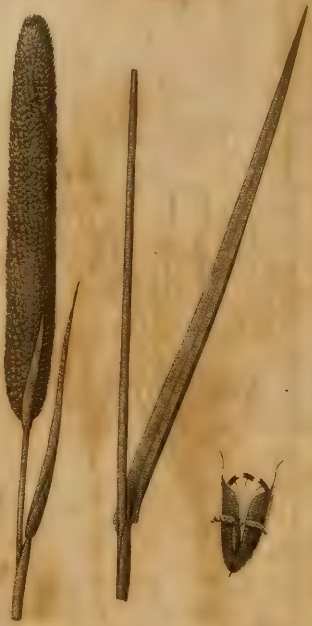
ZANTHOXYLUM 690
clava herculis 690
fraxineum 690
fraxinifolium 691
ramiflorum 690
tricarpum 690
ZAPANIA 100
lanceolata 101
nodiflora 101
ZIZANIA 585
aquatica 585
aquatica 586
clavulosa 586
fluitans 587
miliacea 586
palustris 586
ZORNIA 218
tetraphylla 219
ZOSTERA 514
marina 514

THE END.

Pl. VII.

Nº1

Phleum Pratense



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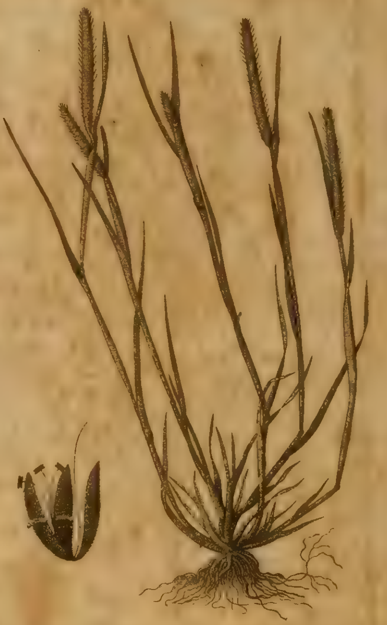
Alopecurus Geniculatus



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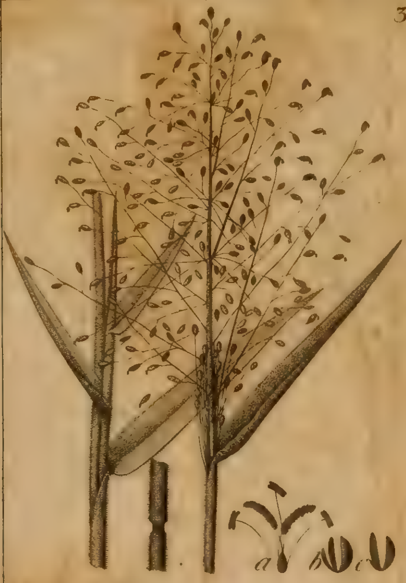

Panicum Viscidum

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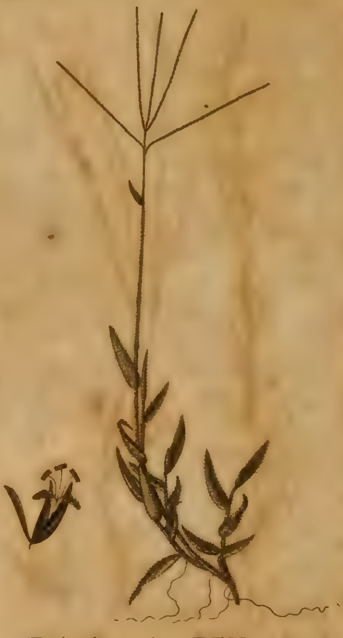
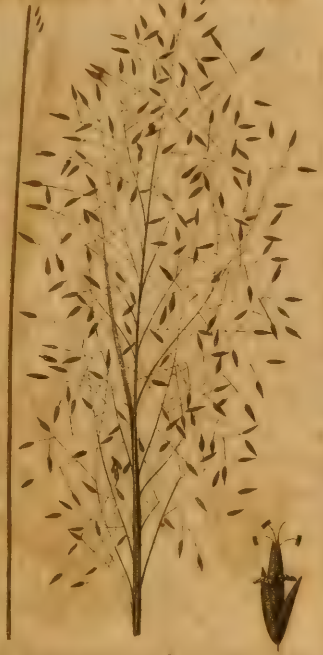


Digitaria Villosa

Pl. VIII.

№1

Agrostis Trichopodes



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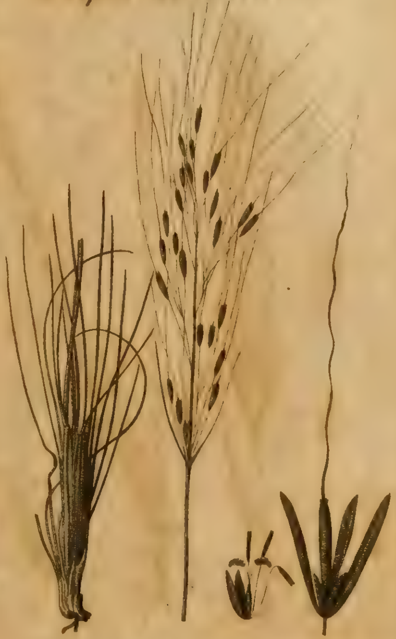
Stipa Avenacea



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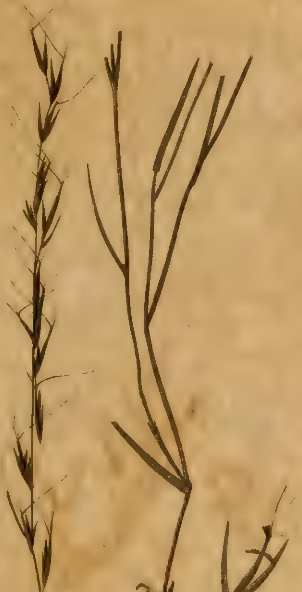

Aristida Gracilis

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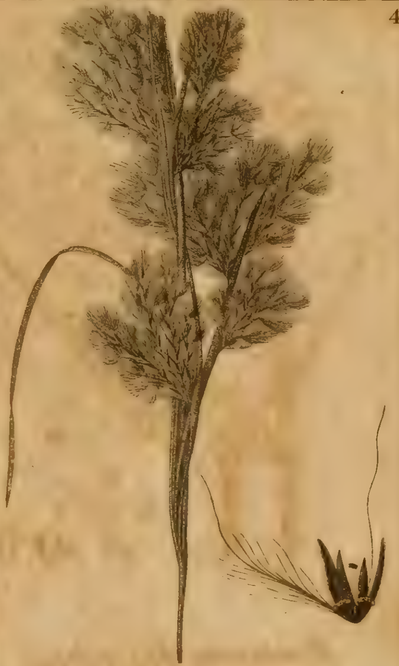
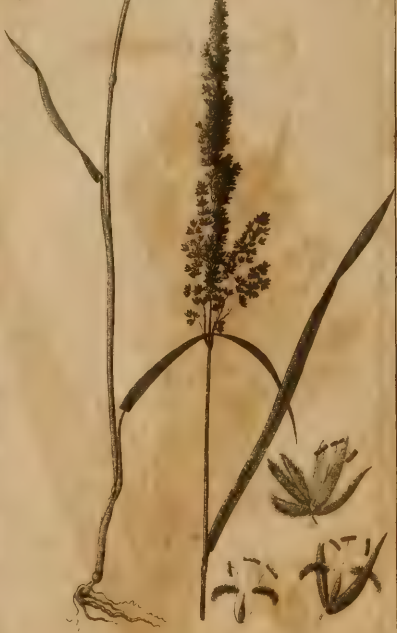


Andropogon Tetrastachyum

Pl.IX.

Nº 1



Aira Obtusata

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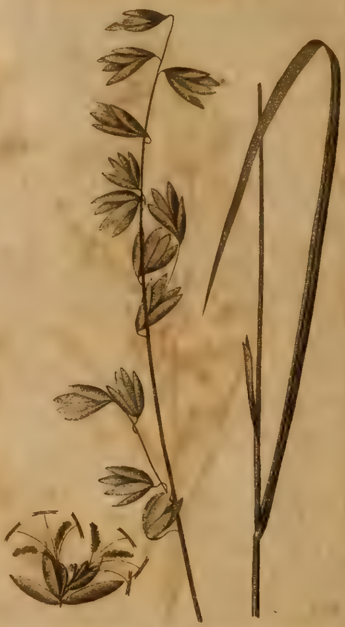
Melica Glabra



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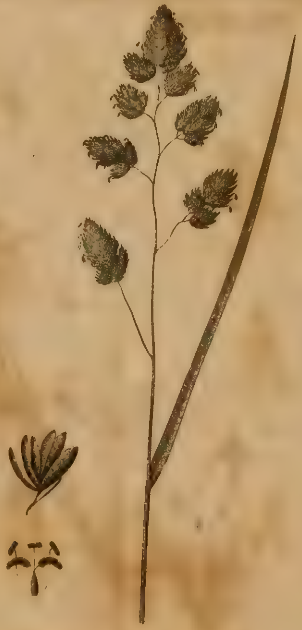

Dactylis Glomerata

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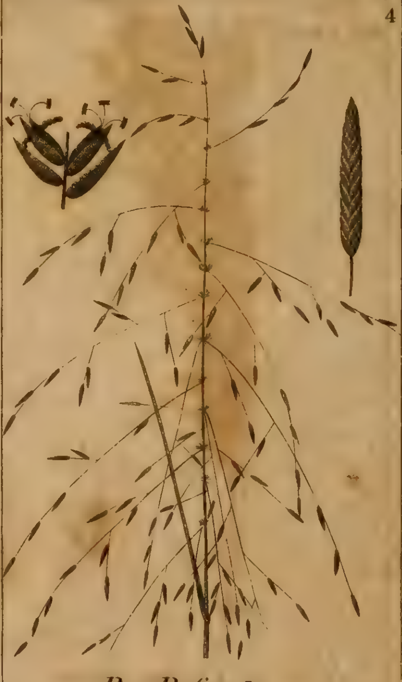
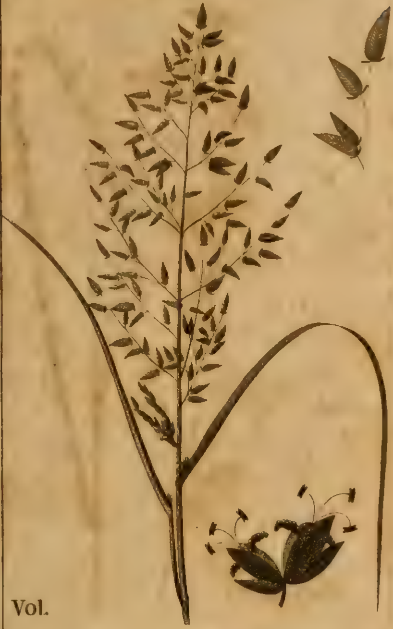


Poa Refracta

Pl. X.

Nº 1

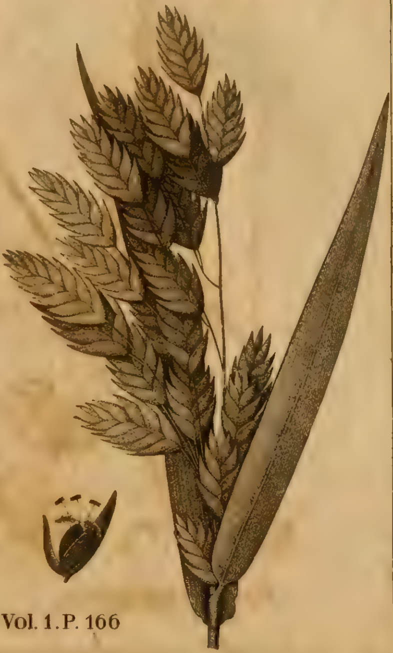
Briza Eragrostis



Vol.

2

Uniola Latifolia



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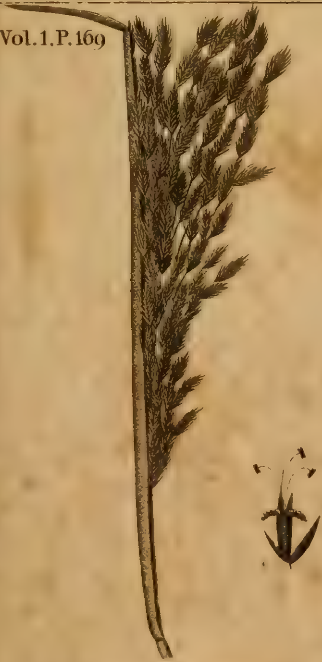
Vol. 1. P. 169



Festuca Polystachya

4

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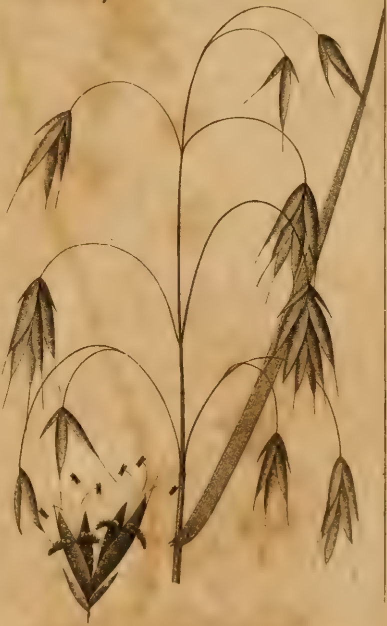
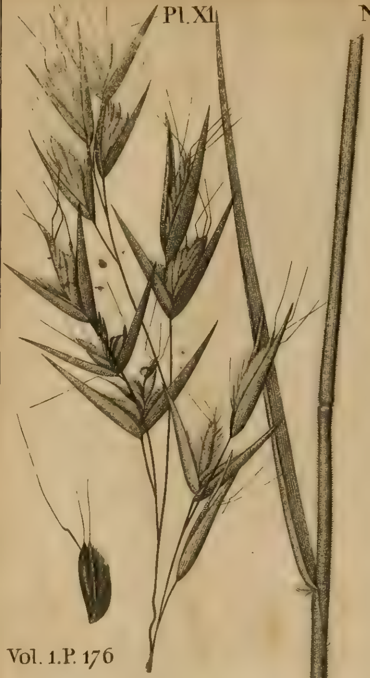


Bromus Purgans

Pl. XI

No 1.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Avena Glumosa

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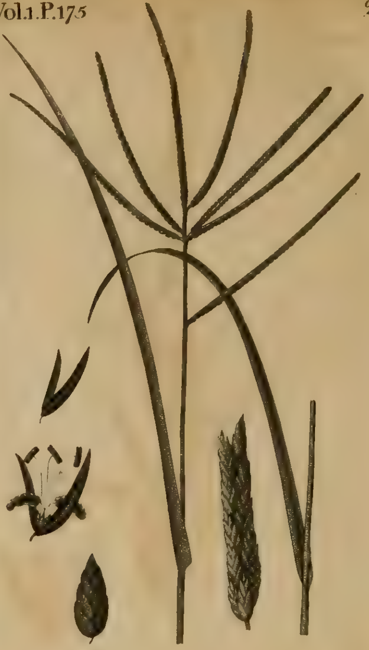
2



Eleusine Indica

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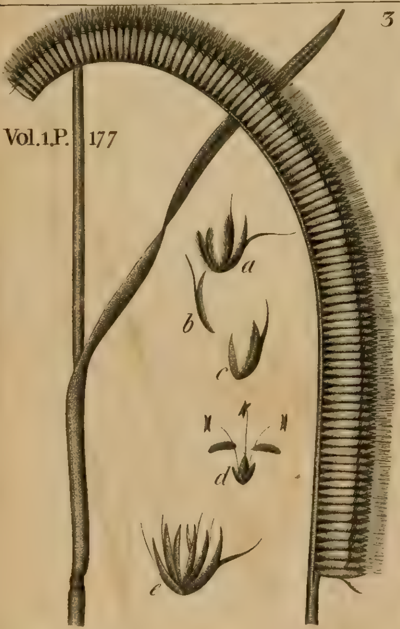

Monocera Aromatica

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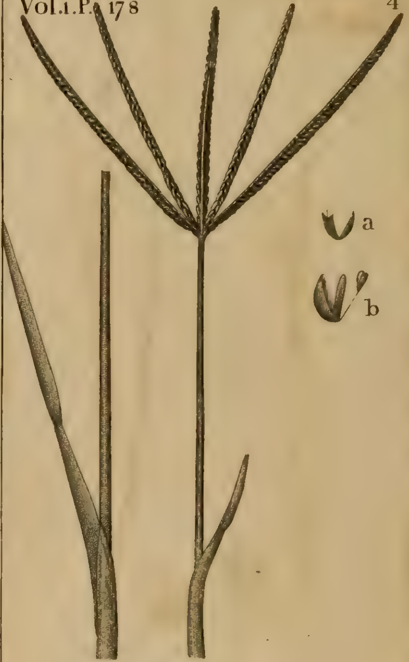
4



Chloris Petræa

Pl. XII.
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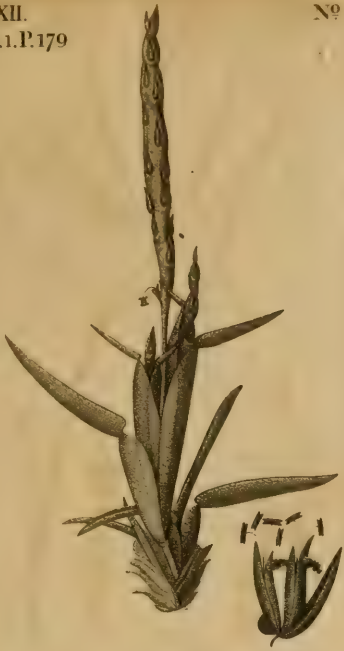
№ 1.



Rottboellia Dimidiata

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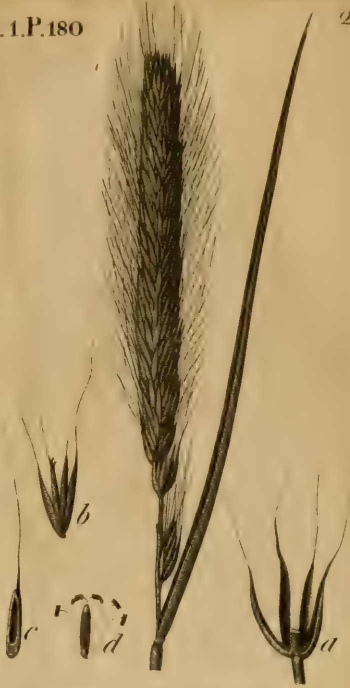
2



Elymus Virginicus

Vol. 2. P. 560

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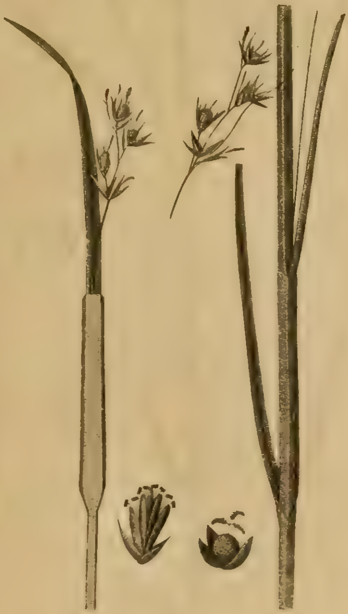

Scleria Reticulata

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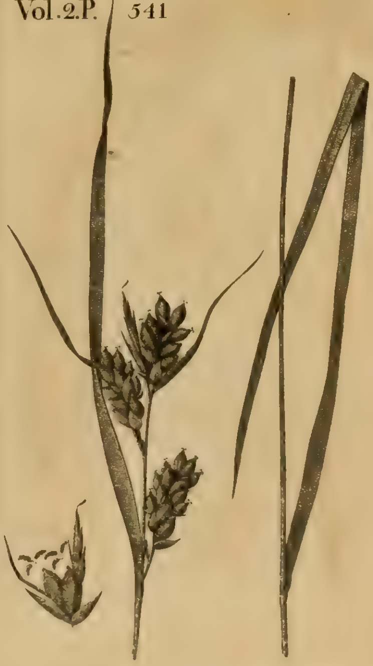
4



Carex Dasycarpa